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# BULLETIN

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No. 1.

### GROUND AND DEEP WATERS OF NORTH CAROLINA.

By GERALD MCCARTHY, Biologist, N. C. Laboratory of Hygiene.



FIG. 1.—Typical arrangement of stratified beds in Atlantic coast region. B shows a successful well drawing water from a gravel bed just above the crystalline rock.

More or less water is contained in all layers of the earth's crust to a depth of about five miles; but it is abundant enough to be of practical importance only in the upper 5,000 feet. According to the estimate of T. C. Chamberlin of the United States Geological Survey, were all the water contained in the earth's crust brought to the surface, it would form a uniform layer covering the entire earth to the depth of about 800 feet.

In crystalline rock, like granite, porphyry, and marble, and also in shales and stiff clays, water in usable quantities occurs, if at all, only in cracks and pot holes. In sands, sandstones, and loose strata generally, water percolates freely under the force of gravitation, saturating the stratum, and flowing towards its lowermost end. Percolating soil-water usually flows very slowly, rarely exceeding 6 feet in 24 hours.

In fine-grained beds the flow is often less than 12 inches in 24 hours. The rate of flow depends mainly upon the slope, porosity of strata and hydrostatic pressure.

All waters yielded by wells and springs are in a sense "ground waters," but for convenience water analysts designate by this name only water from ordinary wells, or wells less than 200 feet deep. Waters from ordinary gushing springs, artesian wells, and non-flowing wells over 200 feet are properly called deep waters. The water which collects in shallow pools under the roots of trees or at base of large rocks, often miscalled "spring water," is merely ordinary surface-water. In regions underlaid by a thick limestone bed the lime is often dissolved in spots, forming "sinks," or "pot holes." The water which fills these sinks may eventually force an underground passage by dissolving the lime rock along a fissure. The underground stream thus formed may come to the surface at some point more or less distant, forming a so-called "big spring." These underground streams are never very long.

Ground and deep waters have a common source—the rainfall. When rain falls upon the ground, a part—ordinarily about 40 per cent.—runs off at once into streams; from 25 per cent. to 40 per cent. percolates into the ground and this portion forms the source of all ground and deep waters.

The term "artesian" is properly applied only to deep water under hydrostatic pressure, usually producing flowing wells. Many properly called artesian wells, however, do not actually flow because of leakage of water into dry beds, or similar preventable causes. The name is derived from the district of Artois in France, where flowing wells were first drilled in the twelfth century.

The outcrop of a stratum supplying artesian wells is usually at a considerable distance from the locality where the water is tapped by the well. (See Fig. 1 at A. The well is shown at B.) The essentials for an abundant artesian flow are as follows:

1. A continuous porous bed to carry water.
2. A rainfall adequate to supply water enough to keep this bed continually saturated.
3. Exposure of the outcrop sufficient to catch rain enough to saturate the bed.
4. Relatively impervious beds below and above to enclose the water-bed.
5. An inclination of all these beds sufficient to furnish a fall and head.
6. An absence of escape outlets for water at a lower level than the well. (See Fig. 6.)

In North Carolina the region of sedimentary or stratified beds has a maximum width of only about 140 miles, and the outcrop of water-bearing stratum is nowhere over 600 feet above sea-level. Therefore,



except in low spots, the water in deep wells does not rise or overflow above the surrounding surface.

It is sometimes imagined that large-flowing artesian wells must tap a subterranean lake which is under heavy pressure by the superimposed strata, and that it is this pressure which forces the water out of the well tube. In fact, no such compressed subterranean lakes are known, nor is one likely to be found. The real reservoir which supplies an artesian well may be likened to a tilted tube, filled with sand, pebbles, and clay. If water be poured in at the higher end of tube—representing the “outerop” of a water-bearing layer—it will percolate downward until the entire enclosed mass is saturated. Now if the lower end of the tube be plugged so no water can escape and a small hole bored through the wall of the tube, the water will spurt out of this hole with a force proportionate to the porosity and saturation of enclosed soil, and the height of head. (See Figs. 1 and 6.) “Artesian pressure” is ordinary hydrostatic pressure. It is not caused by the weight of superimposed strata.

The actual quantity of water held in a stratum and available for tapping by wells obviously depends largely upon the character of the water-bearing bed. The following table shows the percentage of water by weight which some common layers of the earth's crust hold when saturated:

	<i>Per Cent.</i>
Humus .....	180.
Clay .....	.65 to 75.
Loam .....	50.
Micaceous quartz sand .....	32.
Loose limestone .....	31.
Coarse or granular sandstone .....	29.
Pure quartz sand .....	26.
Fine or clayey sandstone .....	4.3
Conglomerate .....	3.70
Shale .....	.0.1 to 3.8
Basalt .....	0.85
Compact limestone .....	0.63
Gneiss .....	0.19
Granite .....	0.06 to .12

The Atlantic slope of the United States is underlaid at no great depth by solid crystalline rock, sloping rapidly from the crest of the Appalachian mountain chain to and beneath the ocean. (See Fig. 1.) In the South Atlantic States, the western and higher part of this slope has the crystalline rock within less than 30 feet of the surface. The loose overlying soil is usually formed from the weathered or decomposed bed-rock. A line drawn from Weldon, N. C., to Smithfield, N. C., from Smithfield to Cary, and from Cary, N. C., to Wades-

boro, N. C., marks approximately the boundary between the weathered rock region and the sedimentary or stratified region of the State.

Along the western border of the coastal plain, extending in a northeast and southwest direction, there lies a belt of coarse Triassic sandstone and conglomerate from five to ten miles wide. This belt enters the State from the south a little southwest of Wadesboro and pinches out a little south of Oxford. Durham, Haywood, and Sanford are situated on this belt. A considerable supply of pure, soft water can be gotten anywhere on this belt at a depth of from 250 to 500 feet. A 6½-inch well at Sanford, about 500 feet deep, yields 45 gallons per minute.

West of the sandstone belt and having the same trend is a belt of Huronian slates interspersed with seams of conglomerate. This belt is from 20 to 30 miles wide. The seams and laminae dip at a nearly vertical angle. On this belt are situated the cities of Monroe, Albemarle, Pittsboro, and Hillsboro. At the present time the slate belt yields the State's largest supplies of deep water. The water is of good quality. (See analyses of Monroe and Albemarle waters further on.) It is quite likely that this belt holds water enough to supply for many decades the ordinary demands of the towns situated upon it. Probably the best way to secure large supplies of water from the slate is by means of gang-wells, 200 to 400 feet deep.

The bed-rock of the region west of the last-named belt is, except a narrow bed of slate on the French Broad, granite and gneiss. In the granite region, however, the upper face of the rock is everywhere more or less fissured and in spots is decayed to considerable depths. In these fissures and pot holes the water from rain collects and flows along the fissures or joints. A moderate supply of usually soft water can be had where a deep well is sunk in crystalline rock at the converging point of several fissures. But water from wells sunk in granite is simply local surface-water. It is water which has fallen upon the ground within a few miles at farthest. Such water is but slightly, if at all, purified by its short sojourn in the ground. If the surface soil upon which the water originally fell as rain was contaminated by filth, the water yielded by the wells will be more or less polluted. Towns in the granite region having deep water supplies should be very careful to protect their collecting grounds from pollution. Wells in crystalline rock should as a rule be not over four inches in diameter. If more water than a 4-inch well yields is needed, additional wells should be sunk. The wells should be aligned so as to cross the general direction of the cracks and flow of water and should not be closer than 20 feet. Obviously such wells should not be sunk near or on the lower side of a cemetery, slaughter-house, or place where the ground is known to be saturated with decaying organic matter. Fissures, joints, and decayed spots in the granite are always superficial. If satisfactory water is not obtained by boring into the granite for 250 feet, it is very unlikely

to be found at a lower depth. Before abandoning a dry or small-yielding well, however, whether it be in rock or in a loose stratum, the bottom of the hole should be torpedood. (See Fig. 2.) The shattering of the rock or clay around the base of the hole will often tap a nearby water-bearing crevice or joint. Fully 90 per cent. of the deep wells in granite have secured water at less than 250 feet. The average yield of a 4-inch well in granite is about 20 gallons per minute.

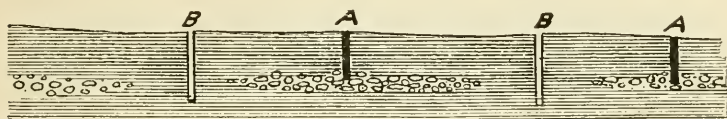


FIG. 2.—A common arrangement of pockets or seams of porous nature interspersed with impervious clay. A, A show successful wells; B, B are unsuccessful, but might be made to yield water by exploding torpedoes at bottom, causing seams to open to the gravel pockets.

True artesian water can be reasonably looked for only in a region of stratified beds. In North Carolina, as a rule, a considerable supply of such water will be found only within 100 miles of the coast. The stratified beds of this region were deposited from the waters of the receding ocean as the mountain ridge was gradually pushed up in geological ages long distant. These beds dip eastward or southeast, following the slope of the underlying rock. The lowermost stratum is known as the Potomac formation, consisting mainly of sand, kaolin, and gravel. This stratum is in all the Atlantic States the chief and best source of deep waters. Next above the Potomac, we usually find a layer of marl or shell rock with beds of sand and clay, referred to the Pamunkey or Eocene formation. Upon the latter lies a compact blue clay mixed with layers of marl and sand—the Chesapeake formation. Upon this in turn we find the reddish, gravelly loams of the Lafayette formation and the paler loamy Columbia formations, forming the surface or agricultural soils of this region.

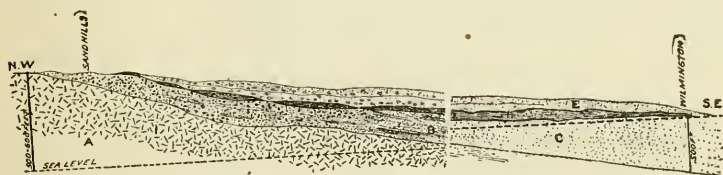


FIG. 3.—Arrangement of stratified beds in eastern North Carolina. A, crystalline rock; B, Potomac formation; C, Cretaceous or Pamunkey formation; D, Eocene or Chesapeake formation; E, Lafayette formation.

In North Carolina, the Potomac formation outcrops in the sand-hill regions of Moore and Harnett counties, and in the region north of the Neuse River. The Potomac layer dips steeply to the southeastward. The upper limit of the Potomac formation, roughly speaking, in North

Carolina is even with the level of the sea, about 80 miles inland. The average depth below the surface of the ground of upper limit of the Potomac formation 100 miles inland from the sea is 200 to 300 feet. At Wilmington it is more than 1,000 feet below the surface and is there probably 300 feet or more thick. More or less water is found in all parts of the Potomac formation. But the securing of large and permanent supplies of good drinking-water from any but the basal horizon is a doubtful proposition. Most of the wells sunk east of Goldsboro have not gone deep enough to secure the best quality and largest yield of water. Unless satisfactory water is encountered sooner well bores in this region should be drilled to the granite, but should not penetrate the granite.

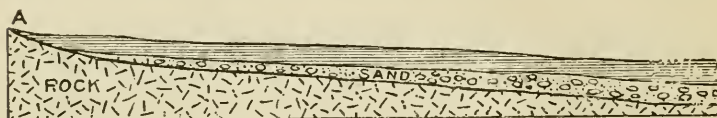


FIG. 4.—Arrangement of stratified beds from which no artesian water can be obtained. The porous stratum is overlaid by impervious clay and has no outcrop.

Most deep wells within 100 miles of the sea yield water which is at first excessively hard and salty. But well improves with age, especially when others are sunk nearby. This improvement is probably due to the fact that the well at first draws upon water which has long stagnated and become saturated with mineral matter. The continued draft of the well eventually exhausts the surrounding saturated supply and fresh water from the head of the bed flows in. Therefore, no well yielding a plentiful supply should be abandoned merely on account of saltness or mineral contents. Most highly mineralized ground waters can be easily and cheaply improved by softening.

Deep or artesian wells forming a series should be aligned approximately at right angles to line of flow or dip of strata. The wells should not be less than 50 feet apart. In artesian wells lateral leakage into drier strata must be carefully guarded against by means of tight packing or plugs around well casing. These joints are made of seed bags or rubber discs. The packing of well joints tends to wear out and becomes inefficient in the course of years and must be renewed.

To determine the approximate height of flow of an artesian well, a spring pressure gauge may be used. Each pound of pressure per square inch of piston is equivalent to 2.3 feet rise of water above gauge. Theoretically, water should rise in the well tube to the height of its fountain-head. But lateral leakage and friction always cause more or less loss of hydrostatic pressure. In average sand or sandstone an artesian flow will usually lose from friction alone one foot of head for each mile of distance from outcrop of the stratum.

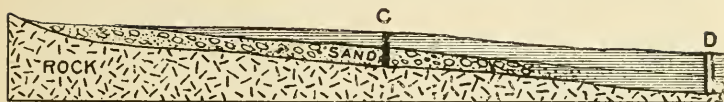


FIG. 5.—A common arrangement of stratified beds. Porous stratum yields water at C, but pinches out further down. Well at D, unsuccessful.

In sinking a deep well, each water horizon encountered should be carefully tested for amount and quality of its yield. Well drillers, being paid by the foot, often pass by good water horizons to finally accept worse, or even abandon the well as a failure.

A careful and permanent record or log of the well, with samples of the material brought up, should be preserved for future reference. This record may prove of great value when repairing the well or duplicating it.

The cost of drilling a 6-inch well is usually about \$3 per foot.

The proper storage of deep and artesian waters is a matter of great practical importance. These waters as they come from the wells should be nearly or quite germ free and sterile. Deep waters, however, always contain in comparatively large quantities nitrogenous and mineral matters suitable for food for bacteria and green and blue algæ. The spores or reproductive bodies of these organisms are blown about by the wind everywhere. When water reservoirs are open to the air the water quickly becomes contaminated by these growths. Tastes and odors of a peculiarly disagreeable character are produced in water by many species of algæ. The development of such growths in reservoirs can be prevented by treating the water with copper sulphate—one part to one million parts water. But the better way is to store deep waters only in covered reservoirs. Deep waters and surface waters should never be mixed or stored in same reservoir.

Artesian wells flowing satisfactorily at first, decline from various causes. Some of these causes, according to T. C. Chamberlin of the United States Geological Survey, are as follows:

1. *Insufficient casing or packing.* Insufficient length of pipe will permit the water of the bed tapped by the well to leak into another stratum. Packing around the pipe may also be insufficient to prevent such leaks, or pressure may be so great as to cause the water to force its way around or through packing. The greater the hydrostatic pressure, the greater will be the loss of water by leakage. (See Fig. 6.)

*Remedy.*—Sink the pipe into the water-bearing bed. Pack sufficiently just above this bed and renew packing whenever needed.

2. *Filling Up of Bore.*—The bore below the well casing may gradually close by lateral pressure or by the disintegration of the surrounding stratum.



*Remedy.*—Bore through the obstruction without removing casing. This trouble comes on gradually and is usually found only in a loose stratum.

3. *Decay of Casing.*—This may cause waste of water by lateral leakage. The usual life of pipe in an artesian well is very brief—rarely more than seven years. In many cases the pipe becomes perforated in two years. As a rule, the more highly mineralized the water is, the more rapid will be the decay of the pipe. Trouble of this kind increases rapidly after starting. *Remedy*, renew casing.

4. *Exhaustion of Supply.*—The source of artesian water is the rainfall. In the eastern United States the water-bearing strata are fed by an abundant and fairly uniform rainfall. Exhaustion of the supply is therefore not likely to happen as regards any particular bed unless carrying capacity of bed has been overworked. When exhaustion not due to waste really occurs, there is no remedy.

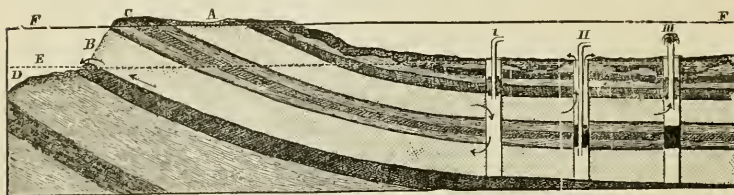


FIG. 6.—A typical artesian basin. A, water-bearing, porous bed. B, dry, porous bed. E, outlet of dry bed. F, level of outcrop of A. Well I shows result of insufficient casing and lack of plugging between the two porous beds. The water from A escapes into B and issues as a spring at E. Well II shows the good bed A passed and cased off and well sunk into dry bed. Water from A escapes from outside of pipe at surface of ground. Well III shows a properly plugged and cased bore.

## ANALYSES OF NORTH CAROLINA DEEP WATERS.

The following analyses of samples from North Carolina public water supplies derived from deep wells were made in the State Laboratory of Hygiene during the months of January and February, 1907. Complete data as to depth of many of these wells and the nature of water-bearing beds are unattainable. In most cases no records were made or they have not been preserved.

The comments on character of the different waters are by the author of the present paper. The numerical determinations are in all cases parts per million.

### ALBEMARLE.

(Slate region, 42 miles west of coastal plain).

Odor .....	none.
Color .....	10.
Turbidity .....	1.6
Sediment .....	none.

Total solids .....	210.
Alkalinity .....	100.
Temporary hardness .....	100.
Permanent hardness .....	15.8
Total hardness .....	115.8
Incrustants .....	15.8
Iron .....	trace.
Phosphates .....	trace.
Chlorine .....	12.
Nitrates .....	.90
Nitrites .....	trace.
Ammonia, free .....	.027
Ammonia, albuminoid .....	.010
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c.....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Good, but hard. Well 237 feet deep in hard blue slate.  
Pumps 25 gallons per minute.

## EDENTON.

(Coastal plain, 50 miles from sea).

Odor .....	none.
Color .....	12.
Turbidity .....	2.5
Sediment .....	none.
Total solids .....	610.
Alkalinity .....	400.
Temporary hardness .....	246.
Permanent hardness .....	0.
Total hardness .....	246.
Incrustants .....	0.
Iron .....	.15
Phosphates .....	trace.
Chlorine .....	61.
Nitrates .....	.17
Nitrites .....	considerable.
Ammonia, free .....	.385
Ammonia, albuminoid .....	.093
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.

Bacillus Coli-communis in 5 c.c..... none.  
 Other bacteria .....Harmless saprophytes.

REMARKS.—Water contains an excessive quantity of lime and dissolved minerals. Can be very greatly improved by softening. Water-bed is cretaceous marl.

## KINSTON.

(Coastal plain, 110 miles from sea).

Odor .....	none.
Color .....	12.5
Turbidity .....	2.5
Sediment .....	none.
Total solids .....	150.
Alkalinity .....	91.
Temporary hardness .....	78.75
Permanent hardness .....	7.8
Total hardness .....	92.8
Incrustants .....	none.
Iron .....	trace.
Phosphates .....	trace.
Chlorine .....	9.
Nitrates .....	.20
Nitrites .....	trace.
Ammonia, free .....	.015
Ammonia, albuminoid .....	.063
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c.....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Pure, soft water, suitable for all uses. Water from sandy cretaceous bed. Was formerly much harder than at present.

## LEXINGTON.

(Granite region, 70 miles west of coastal plain).

Odor .....	none.
Color .....	12.5
Turbidity .....	2.6
Sediment .....	none.
Total solids .....	350.
Alkalinity .....	76.50.
Temporary hardness .....	76.50
Permanent hardness .....	171.
Total hardness .....	247.50
Incrustants .....	171.



Iron .....	.15
Phosphates .....	trace.
Chlorine .....	12.
Nitrates .....	4.25
Nitrites .....	trace.
Ammonia, free .....	.010
Ammonia, albuminoid .....	.030
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c.....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Pure water. Very hard and contains an excessive quantity of dissolved mineral matter. The water can be greatly improved by softening. Well 826 feet deep. Pumps about 80 gallons per minute.

## LINCOLNTON.

(*Piedmont granite region*).

Odor .....	none.
Color .....	5.8
Turbidity .....	0.6
Sediment .....	none.
Total solids .....	110.
Alkalinity .....	31.62
Temporary hardness .....	31.62
Permanent hardness .....	21.25
Total hardness .....	52.87
Incrustants .....	21.25
Phosphates .....	trace.
Iron .....	.08
Chlorine .....	3.8
Nitrates .....	.13
Nitrites .....	none.
Ammonia, free .....	.035
Ammonia, albuminoid .....	.045
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c.....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Pure, soft water. Suitable for all uses. Water from fissures in granite. Depth of wells about 150 feet.

## MONROE.

*(Slate region, 20 miles west of coastal plain).*

Odor .....	none.
Color .....	8.
Turbidity .....	2.
Sediment .....	none.
Total solids .....	250.
Alkalinity .....	148.9
Temporary hardness .....	148.
Permanent hardness .....	15.
Total hardness .....	163.
Incrustants .....	15.
Iron .....	trace.
Phosphates .....	trace.
Chlorine .....	18.4
Nitrates .....	.15
Nitrites .....	trace.
Ammonia, free .....	.030
Ammonia, albuminoid .....	.035
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c. ....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Pure, but hard water. Well 1,000 feet deep, in compact blue slate. Pumps 55 gallons per minute.

## MORGANTON.

*(Piedmont granite region).*

Odor .....	none.
Color .....	12.5
Turbidity .....	1.4
Sediment .....	none.
Total solids .....	44.
Alkalinity .....	26.
Temporary hardness .....	26.
Permanent hardness .....	17.
Total hardness .....	43.
Incrustants .....	17.
Iron .....	trace.
Phosphates .....	trace.
Chlorine .....	6.
Nitrates .....	.32
Nitrites .....	none.
Ammonia, free .....	.041

Ammonia, albuminoid .....	.055
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c. ....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Very pure, soft water. Suitable for all uses. Water from fissures in granite.

## NEW BERN.

(Coastal plain, 42 miles from sea).

Odor .....	none.
Color .....	10.
Turbidity .....	2.5
Sediment .....	none.
Total solids .....	290.
Alkalinity .....	143.8
Temporary hardness .....	143.8
Permanent hardness .....	46.25
Total hardness .....	190.
Incrustants .....	46.25
Iron .....	trace.
Phosphates .....	trace.
Chlorine .....	27.
Nitrates .....	.18
Nitrites .....	trace.
Ammonia, free .....	.052
Ammonia, albuminoid .....	.042
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c. ....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Pure, but very hard water. From cretaceous marl bed. Can be improved for all purposes by softening.

## SPENCER.

(Granite region, 70 miles west of coastal plain).

Odor .....	none.
Color .....	10.
Turbidity .....	2.5
Sediment .....	none.
Total solids .....	150.
Alkalinity .....	84.6
Temporary hardness .....	67.50

Permanent hardness .....	3.75
Total hardness .....	71.25
Incrustants .....	trace.
Iron .....	trace.
Phosphates .....	trace.
Chlorine .....	4.
Nitrates .....	.16
Nitrites .....	trace.
Ammonia, free .....	.018
Ammonia, albuminoid .....	.048
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c.....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Good, soft water. Suitable for all uses. Well 6 inches in diameter, 200 feet deep. Pumps 67 gallons per minute. Water from crevices in granite.

TARBORO.

*(Coastal plain, 112 miles from sea).*

Odor .....	none.
Color .....	15.5
Turbidity .....	5.
Sediment .....	none.
Total solids .....	120.
Alkalinity .....	53.
Temporary hardness .....	53.
Permanent hardness .....	6.25
Total hardness .....	59.25
Incrustants .....	6.25
Iron .....	.60
Phosphates .....	trace.
Chlorine .....	8.
Nitrates .....	.18
Nitrites .....	trace.
Ammonia, free .....	.015
Ammonia, albuminoid .....	.060
Algæ .....	none.
Infusoria .....	none.
Organic detritus .....	none.
Bacillus Coli-communis in 5 c.c.....	none.
Other bacteria .....	Harmless saprophytes.

REMARKS.—Pure, soft water. The iron content is persistently above permissible limit. Water from drilled well 80 feet deep. Water-bed in sandy cretaceous marl.

## REVIEW OF DISEASES FOR MARCH, 1907.

## SEVENTY-NINE COUNTIES REPORTING.

Ninety-three counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of March the following diseases have been reported from the counties named:

**MEASLES.**—Alamance, some cases; Alexander, 150; Beaufort; Bladen, a few; Cabarrus, 23; Camden, epidemic; Caswell, several; Cherokee, 3; Chowan, several; Cleveland, many; Cumberland; Currituck, a few; Davidson; Davie, several; Durham, many; Edgecombe, a great many; Franklin, many; Gaston, 15; Graham, 3; Granville, 40; Guilford, 7; Halifax; Harnett, 28; Haywood, several; Henderson, 3; Hertford, many; Iredell, 8; Johnston, several; Lincoln, several; McDowell, 1; Macon, in all parts; Mecklenburg; Nash, many; Northampton, a great many; Orange, 1; Pasquotank, many; Pender, a few; Randolph, 8; Richmond, 2; Robeson, several; Rowan, many; Rutherford, 50; Surry, 25; Transylvania, 1; Wake, 10; Warren, a few; Washington, many; Watauga, 10; Wilkes, 5; Yadkin, several—50 counties.

**WHOOPING-COUGH.**—Alexander, 4; Bladen, a few; Cabarrus, 3; Caswell, several; Chowan, several; Cleveland, many; Craven, several; Cumberland; Davie, many; Durham, a few; Edgecombe, a great many; Forsyth, a few; Franklin, in all parts; Granville, 4; Halifax, epidemic; Harnett, 24; Hertford, several; Lincoln, several; Mecklenburg; Nash, 3; Northampton; Randolph, 1; Rutherford, 80; Sampson, a few; Transylvania, a few; Warren, a few—26 counties.

**SCARLATINA.**—Alexander, 2; Buncombe, 3; Catawba, 8; Gaston, 2; Guilford, 1; Pitt, 1; Wake, 1—7 counties.

**DIPHTHERIA.**—Alexander, 1; Cabarrus, 1; Cleveland, 1; Craven, 2; Duplin, 1; Edgecombe, 1; Gaston, 1; Guilford, 3; Halifax, 1; Harnett, 2; Iredell, 1; Mecklenburg; Nash, 3; New Hanover, 2; Surry, 2; Vance, 1; Watauga, 2—17 counties.

**TYPHOID FEVER.**—Alamance; Alexander, 1; Caldwell, 1; Caswell, 1; Chatham, 1; Cleveland, 1; Cumberland; Edgecombe, several; Franklin, 2; Gaston, 1; Granville, 1; Haywood, 2; McDowell, 1; Mecklenburg; New Hanover, 6; Onslow, 2; Pender, 1; Randolph, 1; Watauga, 1—19 counties.

MALARIAL FEVER.—Craven; Hyde.

MALARIAL FEVER, PERNICIOUS.—Hyde, 8.

MALARIAL FEVER, HEMORRHAGIC.—Craven, 1; Hyde, 2.

MENINGITIS, CEREBRO-SPINAL.—Caswell, 2; Martin, 1; Richmond, 1.

INFLUENZA.—Alamance; Bertie, general; Brunswick; Burke, Caswell, Cherokee, general; Currituck; Edgecombe, general; Gaston, a severe type; Graham, Halifax, Henderson, Hertford, Hyde, Lincoln, McDowell, Montgomery, general; Northampton; Pender, general; Person; Robeson; Rowan, in nearly all parts; Sampson, general; Scotland; Stanly, general; Surry, Transylvania, Warren, Washington, Watauga, Wilkes, general; Yadkin; Yancey—33 counties.

PNEUMONIA.—Alamance; Alexander, 45; Bladen, 3; Brunswick, 6; Cabarrus, 2; Caldwell, 3; Camden, 3; Caswell, several; Catawba, 6; Cherokee, 10; Chowan, several; Cleveland, several; Cumberland; Davidson; Davie, a few; Durham, a few; Forsyth; Franklin, many; Gaston, 12; Graham, 1; Greene, 6; Halifax, many; Harnett, 23; Haywood, several; Henderson, 6; Hertford, 10; Hyde, 6; Iredell, 5; Johnston, a few; Lincoln, several; Macon, in all parts; Martin, a few; Mecklenburg; Montgomery, 6; Nash, 12; New Hanover, a few; Northampton, many; Onslow; Person; Randolph, 3; Richmond, several; Rowan, several; Rutherford, 3; Sampson, a few; Scotland; Stanly, a few; Surry; Transylvania, several; Union, a few; Wake, 43; Warren, many; Watauga, 3; Wilkes, 5; Yadkin, 1—54 counties.

MUMPS.—Yancey.

VARICELLA.—New Hanover, in all parts; Union.

SMALL-POX.—Alamance, 12; Bertie, 4; Chatham, 12; Cherokee, 1; Chowan, several; Cleveland, 4; Currituck, 1; Davidson; Duplin, 3; Durham, 35; Forsyth, 13; Franklin, 10; Gaston, 6; Granville, 5; Guilford, 4; Halifax, 1; Harnett, 2; Hertford, 8; Hyde, 1; Lincoln, 4; Mecklenburg, 1; Nash, 1; New Hanover, 1; Orange, 13; Pitt, 8; Richmond, 3; Robeson, 8; Vance, 6; Wake, 27; Warren, 4; Washington, a few mild cases, next to Tyrrell County, which has no County Superintendent of Health and in which the small-pox situation is neglected—31 counties.

CHOLERA, IN HOGS.—Harnett, Sampson.

DISTEMPER, IN HORSES.—Burke.

No diseases reported from Alleghany, Anson, Polk, Wayne, and Wilson.

No reports received from Ashe, Carteret, Clay, Columbus, Dare, Gates, Jackson, Jones, Lenoir, Macon, Mitchell, Moore, Pamlico, Perquimans, Rockingham, and Swain.

## SUMMARY OF MORTUARY REPORTS FOR MARCH, 1907.

## TWENTY-ONE TOWNS.

	White.	Col'd.	Total.
Aggregate population .....	116,450	76,650	193,100
Aggregate deaths .....	136	163	299
Representing temporary annual death rate per 1,000 .....	14.0	25.6	18.6
<i>Causes of Death—</i>			
Malarial fever .....	1	0	1
Whooping-cough .....	1	2	3
Measles .....	2	3	5
Pneumonia .....	32	35	67
Consumption .....	15	25	40
Brain diseases .....	7	1	8
Heart diseases .....	5	10	15
Neurotic diseases .....	6	3	9
Diarrhæal diseases .....	7	5	12
All other diseases .....	55	74	129
Accident .....	2	5	7
Violence .....	3	0	3
	<hr/>	<hr/>	<hr/>
	136	163	299
Deaths under five years .....	28	46	74
Still-born .....	8	16	24



## Mortuary Report for March, 1907.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL By Races.	By Towns.	DEATHS. Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																				
<b>Charlotte</b> .....	W.	18,000	30,000	9.3	10.0	...	...	...	...	1	2	2	1	...	1	...	...	...	7	...	...	14	25	6	5
Dr. F. O. Hawley.	C.	12,000		11.0		...	...	...	...	...	...	4	1	...	...	...	...	...	5	1	...	11	3	1	
<b>Durham</b> .....	W.	10,000	18,000	13.2	20.7	...	...	...	...	...	...	2	1	...	...	...	...	8	...	...	...	11	31	2	...
Dr. N. M. Johnson.	C.	8,000		30.0		...	...	...	...	1	4	5	...	...	...	...	...	10	...	...	...	20	7	2	
<b>Edenton</b> .....	W.	1,400	4,000	8.6	12.0	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	4	2	...
Dr. Thomas J. Hoskins	C.	2,600		13.8		...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	3	2	...	
<b>Elizabeth City</b> .....	W.	6,000	10,000	14.0	27.6	...	...	...	...	...	...	2	...	...	...	...	1	4	...	...	...	7	23	6	2
Dr. H. D. Walker.	C.	4,000		48.0		...	...	...	...	1	1	2	...	...	...	...	...	12	...	...	...	16	6	2	
<b>Fayetteville</b> .....	W.	3,500	6,000	37.7	34.0	...	...	...	...	...	...	4	...	1	...	2	2	2	...	...	2	11	17	1	1
Dr. A. S. Rose.	C.	2,500		28.8		...	...	...	...	...	...	2	2	1	...	1	...	1	...	...	6	9	12	...	
<b>Goldsboro</b> .....	W.	5,000	8,000	9.6	18.0	...	...	...	...	...	...	1	1	...	...	1	...	...	...	...	1	4	12	3	1
Robt. A. Creech, Esq.	C.	3,000		36.0		...	...	...	...	...	...	2	3	1	...	...	2	1	...	...	9	3	1		
<b>Greensboro</b> .....	W.	10,000	15,000	10.8	27.2	...	...	...	...	...	...	1	4	...	...	...	4	...	...	...	...	9	34	2	...
Dr. Edmund Harrison.	C.	5,000		60.0		...	...	...	...	...	...	7	6	2	...	...	9	1	...	...	25	3	2		
<b>High Point</b> .....	W.	7,500	9,400	14.4	17.9	...	...	...	...	...	...	2	2	...	...	...	4	1	...	...	9	14	2	1	
Dr. C. E. Reitzel.	C.	1,900		31.6		...	...	...	...	...	...	1	2	...	...	...	2	...	...	...	5	2	...		
<b>Marion</b> .....	W.	1,400	1,500	8.6	8.0	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	0	1	...	...	
Dr. B. L. Ashworth.	C.	100		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...	
<b>Oxford</b> .....	W.	1,700	3,200	21.2	18.7	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	3	5	1	...	
Dr. S. D. Booth.	C.	1,500		16.0		...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2	...	...	...	
<b>Raleigh</b> .....	W.	9,000	16,000	18.7	23.2	...	...	...	...	...	...	5	1	1	...	...	7	...	...	...	14	31	2	...	
T. P. Sale, Clerk B. H.	C.	7,000		29.1		...	...	...	...	...	...	6	1	...	...	...	10	...	...	...	17	4	1		
<b>Rocky Mount</b> .....	W.	3,000	5,000	16.0	19.2	...	...	...	...	...	...	1	1	...	...	...	2	...	...	...	4	8	1	...	
Dr. L. C. Covington.	C.	2,000		24.0		...	...	...	...	1	...	1	...	...	...	...	2	...	...	...	4	...	...	...	
<b>Salem</b> .....	W.	3,400	3,800	10.6	12.6	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	3	4	1	...	
S. E. Butner, Supt. H.	C.	400		30.0		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	
<b>Salisbury</b> .....	W.	7,400	11,000	13.0	13.1	...	...	...	...	...	...	5	1	...	1	...	1	...	...	...	8	12	...	...	
Dr. H. T. Trantham.	C.	3,600		13.3		...	...	...	...	...	...	1	...	1	...	...	2	...	...	...	4	1	...	...	
<b>Southport</b> .....	W.	900	1,400	13.3	8.6	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	
Dr. J. A. Doshier.	C.	500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...	
<b>Tarboro</b> .....	W.	2,500	3,500	9.6	10.3	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2	3	...	...	
Dr. S. N. Harrell.	C.	1,000		12.0		...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	
<b>Wadesboro</b> .....	W.	1,200	2,000	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...	
Dr. J. H. Bennett.	C.	800		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...	
<b>Washington</b> .....	W.	4,000	7,000	18.0	27.4	...	...	...	...	...	...	2	...	1	...	1	2	...	...	...	6	16	3	...	
Dr. John G. Blount.	C.	3,000		40.0		...	...	...	...	2	...	4	...	...	...	1	3	...	...	...	10	3	...	...	
<b>Weldon</b> .....	W.	750	1,500	32.0	16.0	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2	2	2	...	
J. T. Gooch, Mayor.	C.	750		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...	
<b>Wilmington</b> .....	W.	16,000	30,000	16.5	18.4	...	1	...	...	...	...	2	2	3	2	4	2	5	1	...	22	46	6	1	
Dr. Charles T. Harper.	C.	14,000		20.5		...	...	...	...	...	...	4	1	1	3	3	2	9	1	...	24	7	7		
<b>Wilson</b> .....	W.	3,800	6,800	12.6	13.0	...	...	...	...	...	...	1	...	...	...	...	...	3	...	...	4	9	1	...	
Dr. W. S. Anderson.	C.	3,000		20.0		...	...	...	...	...	...	...	...	...	...	...	2	2	1	...	5	3	...	...	

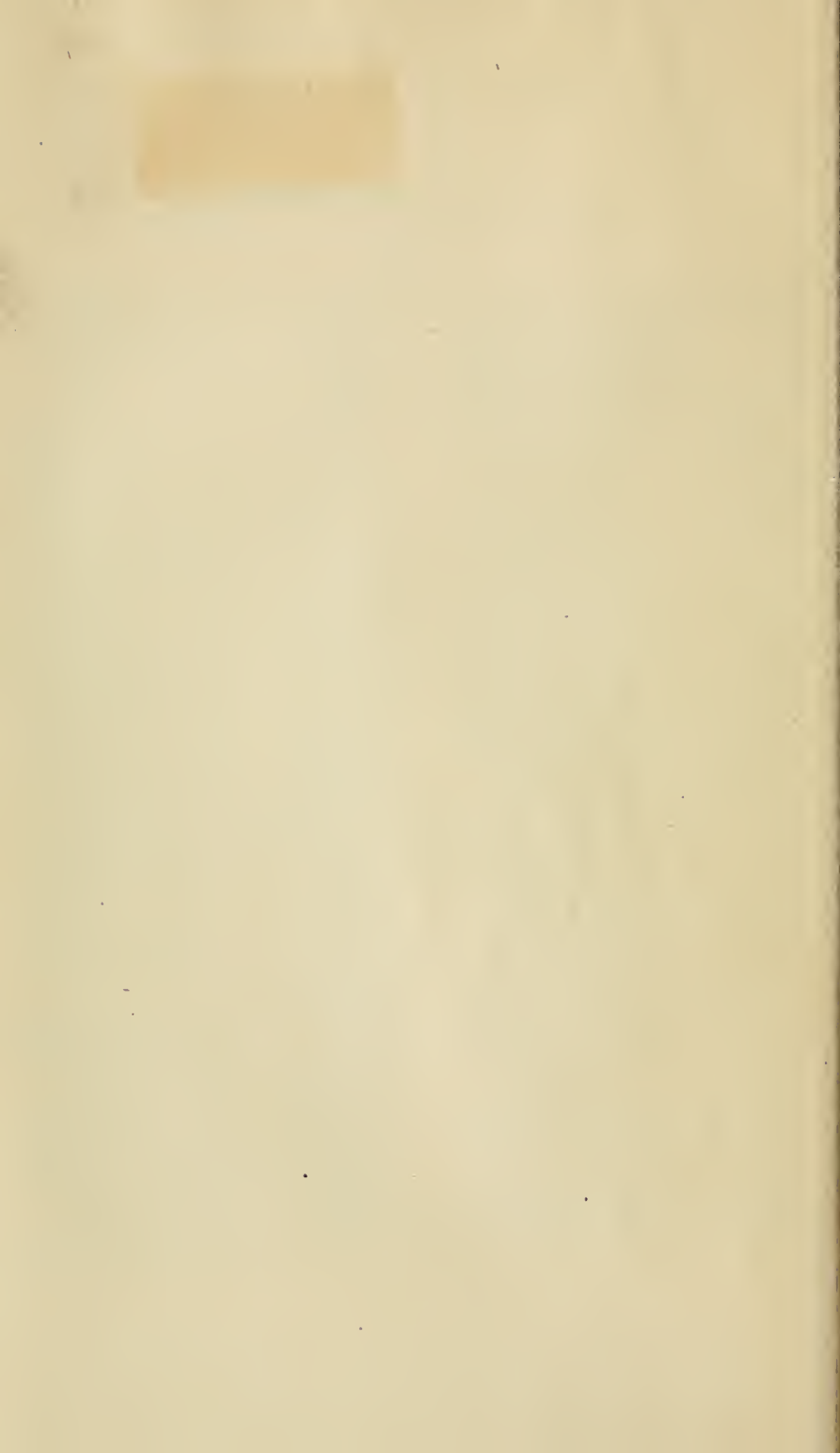
N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."



### County Superintendents of Health.

---

Alamance .....	Dr. George W. Long.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. B. E. Reeves.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. J. H. Bennett.	McDowell .....	Dr. B. L. Ashworth.
Ashe.....	Dr. Manley Blevins.	Macon .....	Dr. F. L. Siler.
Beaufort .....	Dr. John G. Blount.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan.
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. F. M. Clarke.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. J. A. Abernathy.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow.
Clay .....	Dr. J. M. Sullivan.	Person .....	Dr. J. A. Wise.
Cleveland .....	Dr. B. H. Palmer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk .....	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. A. M. Bulla.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. L. D. McPhail.
Currituck .....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....	Dr. W. B. Fearing.	Rockingham .....	Dr. Sam Ellington.
Davidson .....	Dr. Joel Hill.	Rowan .....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. J. Gerald Murphy.	Sampson .....	Dr. J. O. Matthews.
Durham .....	Dr. T. A. Mann.	Scotland .....	Dr. A. W. Hamer.
Edgecombe .....	Dr. S. N. Harrell.	Stanly .....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston.....	Dr. L. N. Glenn.	Swain.....	Dr. R. L. Davis.
Gates.....	Dr. W. O. P. Lee.	Transylvania .....	Dr. C. W. Hunt.
Graham.....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. P. J. Macon.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. R. McCracken.	Watauga.....	Dr. H. McD. Little.
Henderson.....	Dr. J. G. Waldrop.	Wayne.....	Dr. J. B. Outlaw.
Hertford .....	Dr. C. F. Griffin.	Wilkes.....	Dr. John Q. Myers.
Hyde.....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. M. A. Royall.
Jackson.....	Dr. William Self.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. Thel Hooks.		



CHAPEL HILL N C

Dr I H Manning

# BULLETIN

OF THE

## NORTH CAROLINA BOARD OF HEALTH

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*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

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GEO. G. THOMAS, M. D., *Pres.*, Wilmington.

S. WESTRAY BATTLE, M. D.--Asheville.

HENRY W. LEWIS, M. D.-----Jackson.

W. P. IVEY, M. D. -----Lenoir.

T. E. ANDERSON, M. D.--Statesville.

J. HOWELL WAY, M. D.---Waynesville.

W. O. SPENCER, M. D.----Winston-Salem.

J. L. LUDLOW, C. E. -----Winston-Salem.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

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VOL. XXII.

MAY, 1907.

No. 2.

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### LEGISLATION RELATING TO THE PUBLIC HEALTH BY THE GENERAL ASSEMBLY OF 1907.

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The last Legislature showed more interest in the subject of the public health than any of its predecessors. This is encouraging, especially as every act passed is helpful to the cause.

We cannot say as much, however, for the legislation bearing on the practice of medicine. A bill requiring a preliminary education on the part of applicants for license to practise medicine equal to the entrance examinations of the State University and our leading colleges was so sharply attacked in the Senate that its author was only too glad to have it re-referred, that it might die a peaceful death in committee. Special acts were passed "for the relief of certain physicians of Cherokee, Clay, and Graham counties," and "for the relief of certain physicians in Chatham County." The former allows physicians having diplomas from reputable medical colleges until May 1, 1909, to obtain license from the Board of Medical Examiners and gives them the right to practise until that date without the regular license. The Chatham County act simply allows physicians having no diploma the privilege of standing the examination for license. Those advocating the above claimed that unless the "relief" sought was granted they would be, to a large extent, without physicians of any kind; that licensed physicians with rare exceptions could not be induced to settle in their rough mountain country sparsely settled with a population not overly rich in this

world's goods. An act was also passed allowing an old doctor of 80, who had returned to the State, to practise without license. While not serious, perhaps, this is the first legislation in the least impairing our medical license law that we remember. Everything heretofore has been progressive, but this tends to retrogression. The sentiment in favor of the license law is, however, so strong that we do not anticipate any material damage to it.

We give below the other acts of a general character in full, except that, to save space, we have omitted the enacting and ratification clauses. When not otherwise stated, they go into effect immediately.

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AN ACT TO AMEND SECTION 3057 OF THE REVISAL OF 1905,  
IN RELATION TO THE STATE LABORATORY OF HYGIENE.

SECTION 1. That section 3057 of the Revisal of 1905 be amended by striking out in line eighteen the words "twelve hundred dollars" and inserting in lieu thereof the words "two thousand dollars annually," and by inserting after the words "sixty," in line nineteen, the word "four."

[The effect of the above is to add two thousand dollars from the general treasury to the *annual* income of the laboratory, heretofore derived solely from the sixty-dollar tax on water companies. The \$1,200 stricken out was a single and not a continuing appropriation. The four dollars were added to cover expressage on samples, as some of the companies refused to pay it. The income of the laboratory now, while not large, will, we think, be sufficient to enable it to adequately fulfil its mission.]

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AN ACT TO AMEND SECTION 3052 OF THE REVISAL OF 1905,  
IN RELATION TO WATER SUPPLIES.

SECTION 1. That section 3052 of the Revisal of 1905 be amended by striking out all after the word "maintain," in line five, and inserting in lieu thereof the following: "A system for collecting and disposing of all accumulations of human excrement within their respective jurisdictions, or control, at least once each week, by burning, by burial, or by some other method approved by the State Board of Health."

[The original act to protect water supplies required the removal of human excrement from the water-shed, which was impracticable and unnecessary.]

AN ACT TO AMEND SECTION 3056 OF THE REVISAL OF 1905,  
IN RELATION TO WATER SUPPLIES.

SECTION 1. That section 3056 of the Revisal of 1905 be amended by adding at the end thereof the following: "And if at the end of ninety days more, or four months from the time of the first service of said notice of dangerous conditions and demand for their removal, the said removal has not been accomplished, the firm, individual, or corporation selling water to the public shall be guilty of a misdemeanor, and shall upon conviction thereof be fined in the sum of five hundred dollars; and a continuance of the said conditions dangerous to the public health for thirty days thereafter shall constitute a new offense and be punishable by a fine of the same amount: *Provided*, that the time limit above set may be extended by a committee of three members of the State Board of Health, of which committee the secretary and the engineer shall be two, to such extent as the facts and conditions in the case may in their judgment warrant."

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AN ACT AUTHORIZING THE STATE BOARD OF HEALTH TO  
PROVIDE FOR THE PREVENTIVE TREATMENT OF HYDRO-  
PHOBIA.

SECTION 1. That the State Board of Health is hereby authorized and empowered to provide for and have conducted under its direction the preventive treatment of hydrophobia or rabies, whenever in its judgment circumstances, financial and other, will justify it. To meet the expenses of this treatment the said board is hereby given authority to supplement the revenue derived from fees for the treatment by such sums from the treasury of the State Laboratory of Hygiene as may be necessary: *Provided*, that the usefulness and efficiency of the said laboratory is not thereby impaired.

SEC. 2. That the benefits of said treatment shall be given free of charge to all residents of the State who shall present to the Secretary of the State Board of Health, or its representative having in charge the management of this special work, an affidavit of inability to pay, duly sworn to and subscribed before a justice of the peace, or, if the case be a minor, such an affidavit by the parent or guardian. To meet as far as may be the expenses of this special work, the said State Board of Health is hereby authorized and directed to demand from those able to do so the payment in advance of a reasonable fee, not to exceed in any case the usual charge made by the reputable Pasteur institutes of this country.



## AN ACT TO ESTABLISH A SANATORIUM FOR THE TREATMENT OF TUBERCULOSIS.

SECTION 1. That there shall be appropriated the sum of fifteen thousand dollars from the general funds in the State Treasury for the establishment of a sanatorium for the treatment of persons afflicted with tuberculosis.

SEC. 2. That the control of the said sanatorium shall be vested in a board of directors composed of twelve members, to be elected by the General Assembly of North Carolina.

SEC. 3. That the said board of directors shall be appointed in four classes of three directors each: the first class to serve for a period of two years; the second class for a period of four years; the third class for a period of six years, and the fourth class for a period of eight years. The following members shall constitute the first board of directors, to-wit: First class, I. E. Green, Y. T. Ormand and W. H. Whitehead, who shall serve for a period of two years from the date of their election and until their successors are elected and qualified; second class, to be composed of John D. Dawes, W. E. Breese and Walter Murphy, who shall serve for a period of four years from the date of their election and until their successors are duly elected and qualified; the third class shall be composed of N. A. McLean, M. Eugene Street and Dr. J. R. Gordon, who shall serve for a period of six years from the date of their election and until their successors are duly elected and qualified; the fourth class shall be composed of Dr. J. E. Brooks, J. Reese Blair and L. S. Blades, who shall serve for a period of eight years from the date of their election and until their successors are duly elected and qualified. The Secretary of the North Carolina State Board of Health shall be *ex officio* a member of the board of directors.

SEC. 4. In case any vacancy or vacancies shall occur in either of the said classes by death or removal from the State of any member of the said board of directors as hereinbefore composed, or for any other reason, such vacancy or vacancies shall be filled by the board, the person or persons thus chosen to serve until the next succeeding session of the General Assembly of North Carolina, when a successor or successors shall be elected by the General Assembly to fill out the unexpired term of the class or classes in which said vacancy or vacancies occur.

SEC. 5. That said board of directors shall be and are hereby constituted a body politic and corporate, under the name and style of "North Carolina Sanatorium for the Treatment of Tuberculosis," and upon them, as such, are hereby conferred all the duties, powers, privileges and obligations incident to bodies corporate.

SEC. 6. That said board of directors are hereby given full power and authority to meet and organize themselves, from their own numbers to elect a chairman, to purchase sites, to erect buildings and to provide such apparatus and equipment as may be necessary to establish such

a sanatorium and prepare it for the reception of patients: *Provided*, such expenditures do not exceed the amount appropriated by section one of this act; with power in the board to elect a superintendent, fix his compensation, and do every other act or thing reasonably necessary and incident to carrying out the provisions of this act.

SEC. 7. The board of directors shall prescribe the duties of the superintendent, who shall be a skilled physician of good character and good business habits and otherwise qualified to discharge the duties of his office. He shall hold office for a period of two years from and after the date of his election, unless sooner removed therefrom by the board for incompetency or misconduct in office, and shall keep a record of his transactions and duly enter the same in a book or books for the purpose.

SEC. 8. That said superintendent shall employ such subordinate officers and employees of said sanatorium as may be necessary and fix their compensation, subject to the approval of the board, and said superintendent shall have the power to discharge the same for incompetency or misconduct in office, and the proceedings in regard to such shall be reported to the said board of directors.

SEC. 9. The superintendent shall make monthly reports to the chairman of the board of directors, clearly setting forth the conditions and workings of the institution, and upon the receipt of such report said chairman shall have authority to convene said board, if in his discretion it is necessary to do so. Said superintendent shall make a detailed report of the conditions and workings of the institution every three (3) months to the board of directors, and he shall also make a detailed report to the Governor and the General Assembly. The directors shall be required to hold meetings of their board every three (3) months, or oftener, if the chairman of said board shall call them together, and said board shall be required to make annual reports of the conditions and workings of the hospital herein provided for to the Governor and General Assembly.

SEC. 10. The board of directors shall at their first meeting select from their number an executive committee, composed of the chairman of said board and two of their members, who, in the absence of the board of directors, shall have the direction of the affairs of the said hospital.

SEC. 11. The board of directors shall make all such by-laws and regulations for the government of the hospital as shall be necessary, among which shall be such as shall make the said sanatorium as nearly self-supporting as shall be consistent with the purpose of its creation.

SEC. 12. The Treasurer of the State of North Carolina shall be the treasurer of the said corporation. The said treasurer shall keep all accounts of the said sanatorium and pay out all moneys, upon a warrant of the superintendent of said sanatorium, countersigned by two members of the board of directors, under such rules and regulations as said board may establish.

SEC. 13. For the purpose of maintaining and defraying the running expenses of said sanatorium there shall be appropriated annually the sum of five thousand dollars (\$5,000) from the general funds of the State Treasury in addition to the appropriation provided for in section one of this act, which shall be deposited with the treasurer of the corporation and shall be subject to the orders of the said board.

SEC. 14. Said board of directors shall be empowered to receive or accept gifts or donations for the benefit of the said sanatorium, and said board shall, in their discretion, use the same for carrying out the purposes for which the said sanatorium is established.

SEC. 15. Each member of the board of directors shall be entitled to receive as compensation the sum of two dollars (\$2) per day while exclusively engaged in conducting the affairs of the said sanatorium. in addition to his necessary traveling expenses and hotel bills.

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#### AN ACT PROVIDING FOR THE SEPARATION OF PRISONERS SUFFERING WITH TUBERCULOSIS FROM OTHER PRISONERS.

SECTION 1. That the Board of County Commissioners of the respective counties of North Carolina shall provide in the jail-house or in any camp or place where prisoners are committed for keeping or sentenced to a term of imprisonment in any county in the State of North Carolina, separate cells or rooms or a place in which shall be confined any prisoner or prisoners who may be committed for keeping or sentenced to said prison or place of confinement for a term of imprisonment, who has been examined by the County Superintendent of Health and pronounced by the said County Superintendent of Health as being affected with tuberculosis.

SEC. 2. That it shall be the duty of any Sheriff of any county when a prisoner is placed in his custody for the purpose of being committed to jail or any place of confinement mentioned in this act, who said Sheriff has been informed or has any reason to believe or suspect is suffering with tuberculosis, to have any such prisoner examined by the County Superintendent of Health, and if said prisoner shall be pronounced by said County Superintendent of Health as a tuberculous prisoner, then said prisoner shall be separated from the other prisoners and confined in a separate cell or place provided for by this act.

SEC. 3. That it shall be the duty of the Board of Directors of the State's Prison to provide separate cells or apartments in the said State's Prison in which shall be kept any prisoner or prisoners who may be sentenced to that institution for a term of imprisonment, who after being examined and pronounced by the physician in charge as being affected with tuberculosis.



SEC. 4. That the cells and places of confinement provided for in this act for prisoners affected with tuberculosis shall be kept exclusively for said tuberculous prisoners, and under no circumstances or conditions shall any other prisoner be committed or sentenced to the institutions and places of imprisonment mentioned in this act, who is well and not affected with tuberculosis, be confined in the cells or places of confinement therein provided for tuberculous prisoners: *Provided further*, that when said cells or places of confinement provided for in this act, either in the county jail or camps or the State's Prison, have been used and occupied by any prisoners affected with tuberculosis, the said cells or places of confinement shall not be used for any other prisoners until the County Superintendent of Health or the physician in charge and health authorities of the State's Prison have been notified, and the said cells or places of confinement have been thoroughly fumigated and disinfected under the supervision of the said County Superintendent of Health or the physician in charge and the health authorities of said State's Prison, in the manner prescribed and required by the State Board of Health.

SEC. 5. Whenever any prisoner or prisoners shall be committed to any of the prisons or places of confinement designated in this act, it shall be the duty of the Sheriff of the county or the warden of the State's Prison, as the case may be, in the event any such prisoner or prisoners be known or suspected by said authorities to be suffering with tuberculosis, to have any such prisoner or prisoners examined by the County Superintendent of Health or the physician in charge within five days after they have been committed or sentenced to said prison.

SEC. 6. That nothing contained in this act shall be construed as to interfere with or prevent the county or State authorities from working together all prisoners on public works as now provided for by law.

SEC. 7. That any person or persons violating any of the terms or provisions of this act shall be guilty of a misdemeanor and upon conviction shall be punished in the discretion of the Court.

SEC. 8. This act shall be in force from and after August first, one thousand nine hundred and seven.

In the General Assembly read three times, and ratified this the 4th day of March, A. D. 1907.

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#### AN ACT REQUIRING RAILROAD COMPANIES TO KEEP THEIR PASSENGER-CARS AND TOILET-ROOMS CLEAN AND DECENT.

SECTION 1. That every person or railroad company, whether incorporated or not, engaging in the regular business of carrying passengers on its railroad cars in this State, shall have the passenger-cars on their roads cleaned, brushed and dusted and the windows washed, if needed,

at least once each day, and have in each car, in which male and female passengers are carried therein, a toilet-room for each sex, and have the same kept clean.

SEC. 2. Any person or corporation engaged in the business described in section one of this act, who shall wilfully or negligently fail or refuse to give orders to their agent or agents in charge of such cars and comply with the requirements of this act shall forfeit twenty dollars (\$20) for each day that it refuses, to be recovered by any person suing for said penalty.

SEC. 3. That the wilful or negligent refusal or the failure on the part of the conductor or manager of any such passenger-car as named in section one to comply with said section one shall be received as evidence of such failure or refusal of such person or railroad company to give such orders, and, moreover, such conductor or manager shall be guilty of a misdemeanor if he fails or refuses to carry out said orders of the person or company mentioned in section one of this act.

SEC. 4. That this act shall take effect from and after the first day of May, one thousand nine hundred and seven.

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AN ACT TO AMEND SECTION 4498 OF THE REVISAL OF 1905,  
BY ADDING A SUBSECTION MARKED (A) THERETO FOR EN-  
LARGING THE POWERS OF THE BOARD OF MEDICAL EXAM-  
INERS IN GRANTING A LICENSE TO APPLICANTS TO PRAC-  
TISE MEDICINE.

SECTION 1. That section four thousand four hundred and ninety-eight of the Revisal of one thousand nine hundred and five be amended by adding a subsection marked (a) "That the Board of Medical Examiners shall in their discretion issue a license to any applicant to practise medicine and surgery in this State without examination, if said applicant exhibits a diploma or satisfactory proof of graduating from a medical college in good standing, requiring an attendance of not less than three years and a license issued to him to practise medicine and surgery by the Board of Medical Examiners of another State."

[The saving feature in the above is that it is left to the discretion of the Board of Examiners as to what States they shall reciprocate with. We can trust them to see to it that our standard is not lowered.]

## REVIEW OF DISEASES FOR APRIL, 1907.

## EIGHTY COUNTIES REPORTING.

Ninety-three counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of April the following diseases have been reported from the counties named:

MEASLES.—Alexander, 75 cases; Ashe, a few; Brunswick, several; Burke, 10; Cabarrus, 17; Caldwell, 2; Camden, epidemic; Caswell, 200; Catawba, 8; Chatham, 10; Cherokee, 1; Chowan, several; Cleveland, a few; Columbus, 2; Craven, several; Cumberland: Davidson; Durham, many; Edgecombe, a great many; Forsyth, a few; Franklin, many; Granville, 25; Guilford, 2; Halifax, many; Harnett, 50; Haywood, many; Hertford, 50; Iredell, 4; Lincoln, a few; McDowell, 6; Madison, 30; Martin, 10; Mecklenburg; Nash, many; Northampton; Onslow, many; Pasquotank; Perquimans, 30; Person, a few; Robeson, epidemic; Rowan, a few; Sampson, many; Stanly, several; Surry, 16; Union, many; Vance, many; Wake, 45; Warren, a few; Yancey, a few—49 counties.

WHOOPIING-COUGH.—Alexander, 4; Ashe, several; Bladen, a few; Caswell, 75; Chowan, several; Cleveland, a great many; Cumberland; Davidson; Davie, many; Durham, a few; Edgecombe, a great many; Forsyth, a few; Franklin, general; Granville, 10; Halifax, many; Henderson, many; Hertford, 50; Martin, 12; Mecklenburg; Northampton; Pasquotank, several; Perquimans, 10; Randolph, 2; Sampson, a few; Surry, 10; Vance, a few; Wake, 7; Warren, a few; Washington, 20—29 counties.

SCARLATINA.—Anson, several; Ashe, several; Catawba, 3; Randolph, 1.

DIPHTHERIA.—Alexander, 1; Bladen, 1; Craven, 1; Duplin, 1; Durham, 1; Gaston, 1; Harnett, 2; Lenoir, 1; Mecklenburg; Nash, 1; New Hanover, 1; Pitt, 1; Randolph, 1; Union, 1—14 counties.

TYPHOID FEVER.—Alexander, 3; Ashe, 3; Cabarrus, 2; Caldwell, 2; Chatham, 2; Columbus, 1; Craven, 1; Cumberland; Durham, 1; Edgecombe, a few; Franklin, several; Granville, 1; Haywood, 1; Madison, a few; Martin, a few; Mecklenburg; New Hanover, 4; Onslow; Pasquotank, several; Person, 3; Randolph, 3; Robeson, a few; Scotland, 2; Wake, 1; Washington, 1—25 counties.

MALARIAL FEVER.—Brunswick, Columbus, Granville, Halifax, Harnett, Hertford, Hyde, Martin, Northampton, and Pender—10 counties.

MALARIAL FEVER, PERNICIOUS.—Granville, 1; Hyde, several; Northampton, 1.

MALARIAL FEVER, HEMORRHAGIC.—Hyde, a few; Martin, 1.

BOWEL DISEASES.—Brunswick, Gaston, Halifax, Lincoln, Rowan.

CEREBRO-SPINAL MENINGITIS.—Caswell, 2; Columbus, 1; Gates, a few; Haywood, 1; Richmond, 1.

INFLUENZA.—Alamance; Alleghany; Ashe, in all parts; Caswell, in all parts; Currituck, a few; Graham, in all parts; Henderson; Hertford, in all parts; Iredell; Lincoln, in all parts; Northampton; Person, in all parts; Sampson; Watauga; Wilkes, in all parts—15 counties.

PNEUMONIA.—Alexander, 12; Alleghany, a few; Ashe, many; Bladen, 3; Brunswick, 4; Burke, 8; Cabarrus, 6; Camden, 10; Carteret, a few; Caswell, several; Catawba, 2; Chowan, 10 or 12; Cleveland, a few; Columbus, 2; Cumberland; Davie, a few; Durham, a few; Edgecombe, many; Forsyth, a few; Franklin, several; Gates, a few; Greene, 2; Haywood, a few; Henderson, 2; Hertford, 4; Hyde, 2; Iredell, 7; Lincoln, a few; Madison, 6; Martin, 3; Mecklenburg; Nash, 5; Northampton, a few; Onslow; Orange, several; Pender, 2; Person, a few; Randolph, 2; Richmond, 4; Robeson, a few; Rowan, a few; Scotland, a few; Union, 2; Wake, 25; Warren, a few; Washington, 8; Watauga, 2—47 counties.

MUMPS.—Northampton.

VARICELLA.—Gaston, a few.

SMALL-POX.—Alamance, 17; Chatham, 2; Cherokee, 2; Chowan, several; Cumberland, 3; Davidson; Durham, 15; Forsyth, 9; Franklin, 8; Gaston, a few; Granville, 5; Guilford, 8; Halifax, 1; Harnett, 5; Lincoln, 13; Nash, 8; Orange, 20; Pitt, 3; Rowan, 5; Vance, 11; Wake, 74, in eastern part; Warren, 4—22 counties.

CHOLERA, IN HOGS.—Onslow.

DISTEMPER, IN HORSES.—Burke, Watauga.

HYDROPHOBIA, IN DOGS.—Stanly; several bitten children were sent to Richmond.

No diseases reported from Bertie, Brunswick, Polk, Wayne, Wilson, and Yadkin.

No reports received from Beaufort, Clay, Jackson, Johnston, Macon, Mitchell, Montgomery, Moore, Pamlico, Rockingham, Rutherford, Swain, and Transylvania.

## SUMMARY OF MORTUARY REPORTS FOR APRIL, 1907.

## TWENTY-FOUR COUNTIES REPORTING.

	White.	Col'd.	Total.
Aggregate population .....	131,750	87,750	219,500
Aggregate deaths .....	138	151	289
Representing temporary annual death-rate per 1,000 .....	12.6	20.6	15.8
<i>Causes of Death.</i>			
Typhoid fever .....	2	1	3
Malarial fever .....	0	2	2
Diphtheria .....	1	0	1
Whooping-cough .....	2	3	5
Measles .....	5	1	6
Pneumonia .....	21	19	40
Consumption .....	15	19	34
Brain diseases .....	8	4	12
Heart diseases .....	8	21	29
Neurotic diseases .....	1	2	3
Diarrhœal diseases .....	10	3	13
All other diseases .....	61	67	128
Accident .....	3	7	10
Suicide .....	0	1	1
Violence .....	1	1	2
	<hr/>	<hr/>	<hr/>
	138	151	289
Deaths under five years .....	37	36	73
Still-born .....	8	23	31



## Mortuary Report for April, 1907.

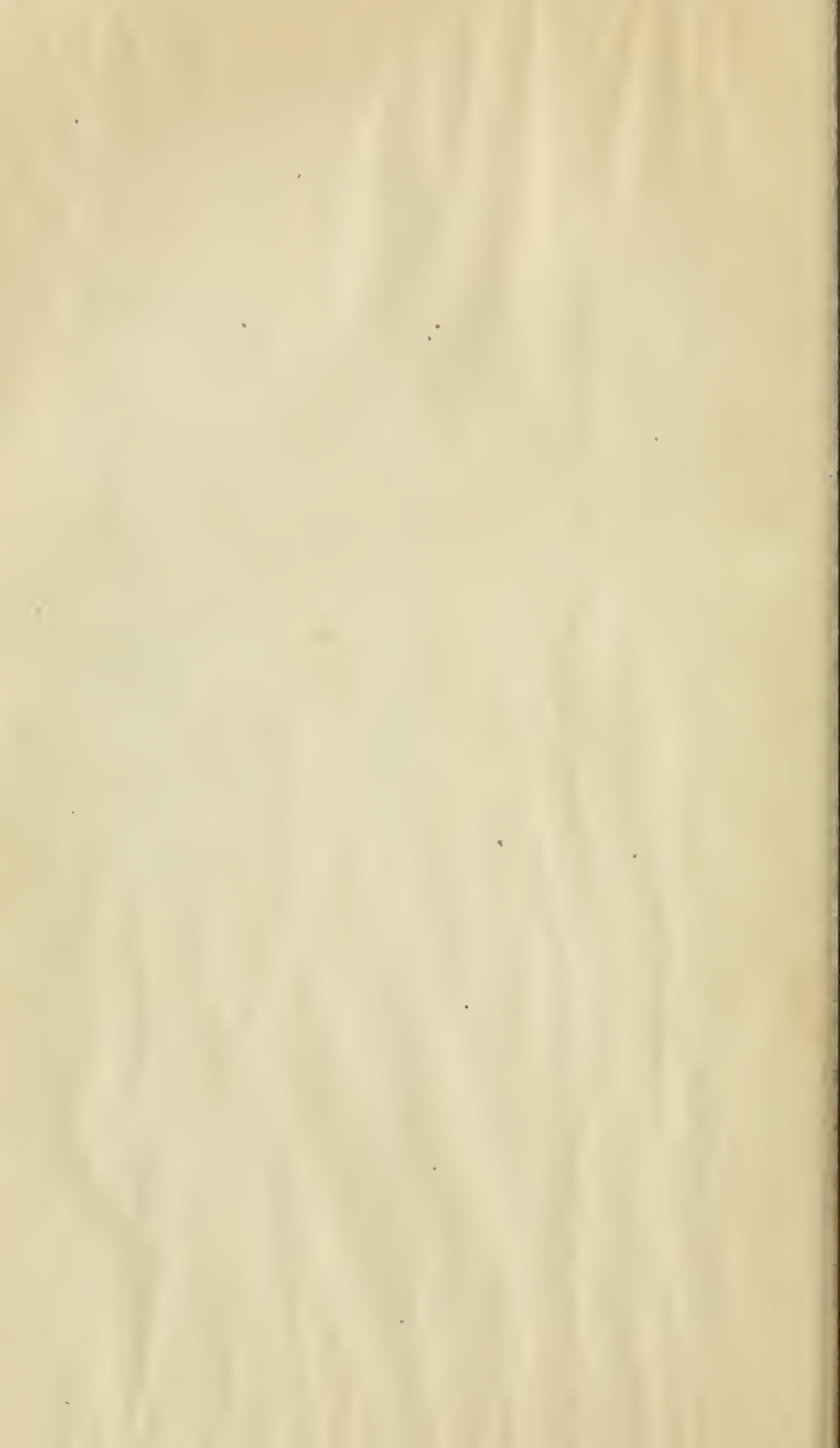
TOWNS AND REPORTERS.	RACES.	POPULATION.		TEM- PORARY ANNUAL DEATH- RATE PER 1,000.	Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL	Deaths under five years.	Still-born.
		By Races.	Total.																		By Races.		
Charlotte.....	W.	18,000	30,000	13.3								3	1					15			20	9	6
Dr. F. O. Hawley.	C.	12,000			18.0								2		1				15			18	7
Durham.....	W.	10,000	18,000	12.0								1	2	1				4	1		10	2	1
Dr. N. M. Johnson.	C.	8,000			25.5	1			1				2	3		2			7	1		17	5
Edenton.....	W.	1,400	4,000	8.6					1												1	2	1
Dr. Thomas J. Hoskins	C.	2,600			4.6														1			1	
Elizabeth City.....	W.	6,000	10,000	12.0				1					1	1				3			6	21	3
Dr. H. D. Walker.	C.	4,000			45.0								2	1	2		1	8	1			15	2
Fayetteville.....	W.	3,500	6,000	31.9								1		2		6					9	12	2
Dr. A. S. Rose.	C.	2,500			14.4								1						2			3	
Goldsboro.....	W.	6,000	10,000	8.0								1				1	2				4	8	
Robt. A. Creech, H. O.	C.	4,000			12.0								1		1		2					4	
Greensboro.....	W.	10,000	15,000	10.8								2	1	1		1	4	1			9	18	1
Dr. Edmund Harrison.	C.	5,000			21.6								1	3	1	2		1			1	9	
Henderson.....	W.	2,000	4,300	12.0											1		1				2	5	
Dr. J. H. Tucker.	C.	2,300			15.6											2		1				3	
High Point.....	W.	9,200	11,200	14.1								3	1	1	1		1	3			10	13	6
Dr. C. E. Reitzel.	C.	2,000			18.0								1			1	1					3	4
Lexington.....	W.	3,000	3,600	0.0																	0	0	
J. H. Moyer, Mayor.	C.	600			0.0																	0	
Marion.....	W.	1,400	1,500	0.0																	0	1	
Dr. B. L. Ashworth.	C.	100			120.0											1						1	
Oxford.....	W.	2,200	4,000	5.4								1									3	4	1
Dr. S. D. Booth.	C.	1,800			20.0								1		2							3	
Raleigh.....	W.	9,000	16,000	20.0									1	3	1		9				15	33	3
T. P. Sale, Clerk B. H.	C.	7,000			30.9								1	5		3		8	1			18	4
Rocky Mount.....	W.	3,000	4,900	20.0		1							1			1	1				5	5	
Dr. L. C. Covington.	C.	1,900			0.0																	0	
Salem.....	W.	3,400	3,800	3.2								1									1	2	
S. E. Butner, Mayor.	C.	400			30.0													1				1	
Salisbury.....	W.	7,400	11,000	4.8								1	1	1							3	10	
Dr. H. T. Trantham.	C.	3,600			23.3				2				1		1		2					7	
Southport.....	W.	900	1,400	0.0																	0	1	
Dr. J. A. Doshier.	C.	500			24.0								1									1	
Tarboro.....	W.	2,500	3,500	14.4								1	2								3	7	
Dr. S. N. Harrell.	C.	1,000			48.0									2				1	1			0	
Wadesboro.....	W.	1,200	2,000	0.0																	0	2	
Dr. J. H. Bennett.	C.	800			30.0													2				2	
Washington.....	W.	3,500	6,500	24.0										1	1		4	1			7	11	3
Dr. John G. Blount.	C.	3,000			16.0					2		1					1					4	
Weldon.....	W.	750	1,500	32.0						1		1									3	4	6
J. T. Gooch, Mayor.	C.	750			64.0									1				3				4	
Wilmington.....	W.	16,000	30,000	14.2		1						2	3	1	3		1	8			19	44	2
Dr. Charles T. Harper.	C.	14,000			21.4								5	4	1	2	2	1	7	3		25	
Wilson.....	W.	3,800	6,800	12.6									1					3			4	8	
Dr. W. S. Anderson.	C.	3,000			16.0									1		1		2				4	
Winston.....	W.	7,600	14,500	11.0								2	1				4				7	11	2
Dr. E. A. Lockett.	C.	6,900			7.0											1		3				4	

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the whole number of deaths occurring within the corporate limits during the above month."

### County Superintendents of Health.

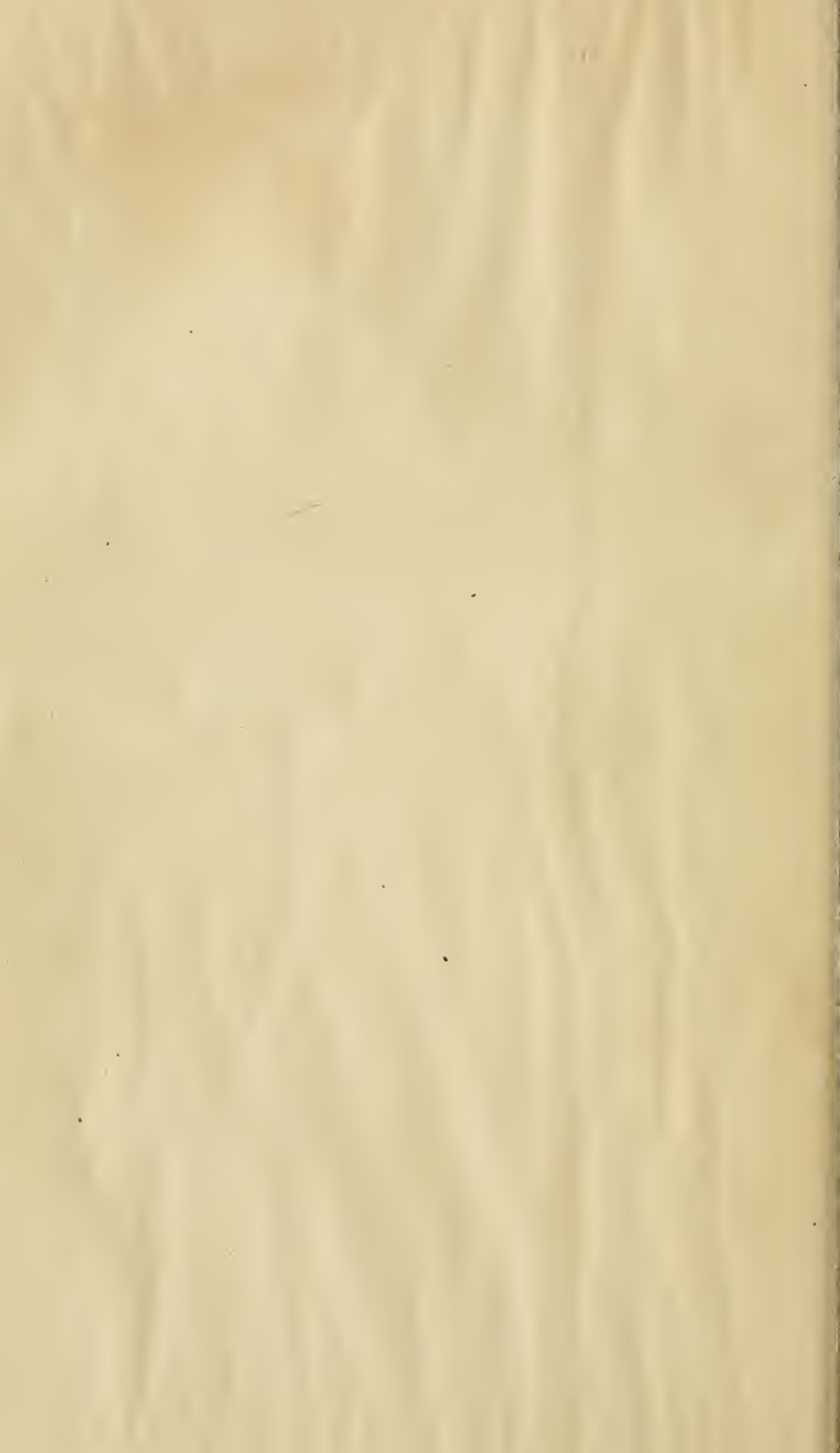
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Alamance .....	Dr. George W. Long.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. J. H. Bennett.	McDowell .....	Dr. B. L. Ashworth.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. F. L. Siler.
Beaufort .....	Dr. John G. Blount.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan.
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. E. Headen.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. J. F. Abernethy.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. T. J. Hoskins.	Perquimans .....	Dr. C. C. Winslow.
Clay .....	Dr. J. M. Sullivan.	Person .....	Dr. W. A. Bradshaw.
Cleveland .....	Dr. T. E. McBrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk.....	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. A. M. Bulla.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. L. D. McPhail.
Currituck .....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. J. Gerald Murphy.	Sampson .....	Dr. J. O. Matthews.
Durham .....	Dr. N. M. Johnson.	Scotland .....	Dr. A. W. Hamer.
Edgecombe .....	Dr. S. N. Harrell.	Stanly.....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston.....	Dr. L. N. Glenn.	Swain.....	Dr. R. L. Davis.
Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham .....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. R. McCracken.	Watauga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. J. B. Outlaw.
Hertford .....	Dr. C. F. Griffin.	Wilkes.....	Dr. John Q. Myers.
Hyde.....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. M. A. Royall.
Jackson.....	Dr. H. F. Burgin.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. Thel Hooks.		









# BULLETIN

## OF THE

# NORTH CAROLINA BOARD OF HEALTH

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*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

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GEO. G. THOMAS, M. D., *Pres.*, Wilmington.

S. WESTRAY BATTLE, M. D.--Asheville.

HENRY W. LEWIS, M. D.-----Jackson.

W. P. IVEY, M. D. -----Lenoir.

T. E. ANDERSON, M. D.--Statesville.

J. HOWELL WAY, M. D.---Waynesville.

W. O. SPENCER, M. D.----Winston-Salem.

J. L. LUDLOW, C. E. -----Winston-Salem.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

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No. 3.

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### ANNUAL MEETING OF THE STATE BOARD OF HEALTH.

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As the regular annual meeting of the State Board of Health is always held at the same time and place as that of the State Medical Society, it occurred this year June 11-12 at Morehead City.

All the members, with the exception of one detained by sickness, were present.

The most important business of the meeting was the election of a director of the State Laboratory of Hygiene to succeed Dr. McCarthy, who goes abroad in the spring. Mr. C. A. Shore, of Winston-Salem, who takes his degree of M. D. at Johns Hopkins University this year, was elected unanimously—thus early to secure him and to save the expense of a special meeting for the purpose—an item to be considered in view of our small appropriation. Mr. Shore, besides being a man of ability and integrity, is very well educated academically and scientifically, being a graduate of our University and having had much experience in laboratory work. He was assistant in the department of biology at the University for three years, and for three years after his graduation he was instructor in the same department. He has also worked in the Laboratory of the United States Fisheries Commission at Beaufort and in the hygiene laboratory of Baltimore. During this summer, he will do further work in the last named, will visit those of Philadelphia and New York, studying their methods, and will finish off in Boston

with a special course under the general direction of Dr. Charles Harrington, Professor of Hygiene in Harvard University and Secretary of the State Board of Health of Massachusetts. We feel entirely confident of his ability to take up and still further advance and perfect the work that has been developed by the earnest and unflagging labors of Dr. McCarthy.

Doctors Way, Register, and Lewis, of the Board, and Messrs. J. M. Harry, of Charlotte, and H. W. Simpson, practical embalmers, were elected on the State Board of Embalming—the last three to succeed themselves. Colonel Ludlow and the Secretary were elected delegates to the American Public Health Association which meets at Atlantic City about October 1.

The present incumbent was re-elected Secretary and Treasurer.

The terms of Drs. Ivey and Lewis, R. H., appointees of the Governor, and Battle and Lewis, H. W., elected by the State Medical Society, expired at the present meeting, and the personnel of the Board was materially changed. Governor Glenn appointed Dr. E. C. Register, of Charlotte, to succeed Dr. Ivey, and the Society elected Dr. D. T. Tayloe, of Washington, and J. A. Burroughs, of Asheville, to succeed Drs. Battle and H. W. Lewis, who were not candidates for re-election.

It is with sincere regret that we part with the outgoing members, who for so many years have held up our hands with unfailing sympathy and support; but at the same time we welcome the incoming members, all of whom are of high professional standing in their communities and in the Society, and upon whose assistance and coöperation we count with confidence.

The usual conjoint session of the Board of Health with the Medical Society was held on the second day of the meeting, at which the Secretary read his report as follows:

#### ANNUAL REPORT OF SECRETARY OF THE NORTH CAROLINA BOARD OF HEALTH, MAY 1, 1906, TO MAY 1, 1907.

During the past year we have suffered no special outbreak of disease and the health of our people in general has been about as usual. A detailed statement of the work of the Board will be found in the Eleventh Biennial Report, which has been for months and still is in the hands of the printer. A copy will be sent to any one asking for it as soon as it is published.

The work of your Secretary has been for the most part of the usual routine character, special attention having been paid to the further distribution of the pamphlets on the prevention of tuberculosis. The indications are that the wide circulation of this publication has made an impression upon our people and has been of real assistance in the campaign against this most fatal of all our diseases.

I am satisfied that the plan adopted of sending the pamphlet direct to the individual, with a letter urging him to read it and to assist in its distribution, has added much to its effectiveness. Over 100,000 copies have been mailed to date, and I am confident that no expenditure of our meager appropriation has brought forth better results than that paid out for the postage on this pamphlet.

With January came the meeting of the General Assembly, which is always a period of mingled hopefulness and anxiety. While the attitude of the last Legislature was, perhaps, less friendly to our license law than has been the case for many sessions, its interest in the public health was more pronounced than usual—an interest that was not simply academic, but one that did something worth while. In *THE BULLETIN* for April I printed all the acts of general interest bearing on the public health, both directly and indirectly, through our medical license law, but it may not be amiss to refer again in this place to the more important.

The act creating the State Laboratory of Hygiene, which carried no annual appropriation from the general fund for its support, was so amended as to give it two thousand dollars annually; at the same time increasing the annual tax of sixty dollars upon water companies by four dollars. This latter does not materially increase the income of the Laboratory, but all the companies would not pay expressage on water samples, and the four dollars were added to cover that. With the tax from the water companies, now numbering fifty-one and gradually increasing year by year, the income will be sufficient, with the money on hand, to adequately equip and conduct an excellent laboratory without outside help. In this connection it is proper to call attention again to the fact that without the generous aid given us by the Board of Agriculture we, in all probability, would not have had any laboratory at all. It should be remembered that at first the Board of Agriculture had biological analyses of drinking-water made for us in their laboratory free of charge—until the water tax was obtained four years ago—and that since that time it has, in addition to furnishing the Laboratory with gas and water, paid \$750 a year towards the salary of the Director. I hope suitable acknowledgment of the enlightened liberality of the Board will be made by the conjoint session. The report of the Director for the past year is appended.

In order to extend the benefits of the Laboratory as far as possible to the people, an act was passed authorizing the preventive treatment of rabies by the Director—who, in the reorganization, will doubtless be a thoroughly trained medical man—when it can be done without interfering with the legitimate work of the Laboratory proper.

A decided advance in State medicine was marked by the enactment of the bill establishing a sanatorium for tuberculous patients,

appropriating \$15,000 for a plant and \$5,000 annually for support. The chief credit of this particular legislation is due to Dr. J. E. Brooks, of Greensboro, who was "the man behind the guns," and the Hon. J. R. Gordon, M. D., member from Guilford of the House of Representatives, who was mainly instrumental in securing its passage. Acknowledgment of this was made by the Board of Directors, of which the Secretary of the Board of Health is *ex officio* a member, at their first meeting, in the election of Dr. Gordon Chairman of the Board and Dr. Brooks Superintendent of the Sanatorium. While the appropriation is very small, it will provide for a beginning, and as the Superintendent is not only an intelligent and capable physician, but an enthusiast on the subject, I feel confident that it will succeed.

As the competency of our physicians is of the highest importance to the public health, anything bearing upon our medical license law is of importance to us. During the session of the Legislature bills for the relief of physicians in Cherokee, Clay, and Graham counties and in Chatham County were enacted into laws. In the one case physicians having diplomas were allowed to practise without license until May 1, 1909, and in the other simply to stand the examination for license without exhibiting a diploma. The reason given for this legislation was the same in both cases—that in the remote, sparsely-settled, and physically rough regions physicians so well educated as to meet the requirements of our very high standard had not settled, and that unless such action was taken the people in the affected regions would be without medical aid. While actively opposing the first-named bill for fear it might be an entering wedge threatening the integrity of our license law, I could not deny the fact, nor in my own mind deny the inherent reasonableness of the contention in the light of those facts. It was indeed the realization of what we have been anticipating, and I was thoroughly impressed with the importance of devising some means of practically lowering the standard to meet such conditions lest our license law should be emasculated in the near future. As a means to this end I approved, as Chairman of the Society's Committee on Legislation, the passage of a bill authorizing the Board of Medical Examiners to reciprocate with other States *in their discretion*. I welcomed this bill the more gladly because it enabled me to secure the voluntary suppression by its author of another bill requiring the Board of Examiners to grant licenses to any one presenting a diploma from the American Association of Medical Colleges and a license from *any* State. As the standard of some States is extremely low, and in nearly all lower than in ours, the passage of this bill would have practically repealed our license law and have undone the work of fifty years for the elevation of our profession and the protection of the people against incompetent physicians. Before the present meeting of the Board of Medical Examiners I addressed a circular-letter to each member of the same, calling attention to the conditions



above set forth and to the importance of action on their part to meet them as far as possible, suggesting reciprocation with the low-standard States when the conditions for this concession demanded it, and also that it would probably be well to lessen the rigor of the examination somewhat by granting certificates on the branches passed, and thereby encourage men to come a second time and finish up successfully rather than give up in despair and take the chances of practising illegally. I was, therefore, much gratified to learn from President Kent, who stopped over in Raleigh on his way to the meeting for the purpose, that he had secured from the Assistant Attorney-General an opinion to the effect that it would be legal for his Board to grant a license and to require the recipient to sign a contract to restrict his practise to a certain county or section, the Assistant Attorney-General writing out the form of the said contract. The judicious use of this privilege will, I think, solve the problem.

## SMALLPOX.

I am very glad to state that smallpox has been very much less prevalent. In 1905 the total number of cases was 7,375 with 31 deaths; in 1906, 6,049 cases and 17 deaths, while during the year ending May 1, 1907, the total number of cases was only 1,897 with 6 deaths. The following is a tabulated statement of the disease by counties:

COUNTIES.	Number of Cases.			Number of Deaths.		
	White.	Colored.	Total.	White.	Colored.	Total.
Alamance -----	24	74	98			
Anson -----	10	10	20			
Ashe* -----	*15		15			
Bertie -----	5	11	16			
Bladen* -----	*12	3	15			
Brunswick -----	5	30	35		2	2
Cabarrus -----	1	6	7			
Carteret -----	2		2			
Catawba -----	1		1			
Chatham -----	12	15	27			
Cherokee -----	2	1	3			
Chowan* -----	*100	200	300			
Cleveland -----	4		4			
Columbus -----	1	1	2			
Cumberland -----	19	4	23			
Currituck -----	22	7	29			

COUNTIES.	Number of Cases.			Number of Deaths.		
	White.	Colored.	Total.	White.	Colored.	Total.
Davidson -----	6		6			
Duplin -----		12	12			
Durham -----	64	50	114			
Forsyth -----	24		24			
Franklin* -----	*9	*91	*100			
Gaston -----	10	4	14			
Granville -----	2	5	7			
Guilford -----	5	94	99			
Halifax -----	2	1	3			
Harnett -----	18	4	22	1		1
Hertford -----	15	30	45		1	1
Lincoln -----	17		17	1		1
Martin -----	20	100	120			
Mecklenburg -----	4	4	8			
Moore -----	4	23	27			
Nash -----	10		10			
New Hanover -----		1	1			
Northampton -----		3	3			
Orange -----	25		25			
Person -----		1	1			
Pitt -----	13		13			
Randolph -----	26	65	91			
Richmond* -----	7	6	13			
Robeson -----	10		10			
Rowan -----	3	2	5			
Rutherford -----	4		4			
Stanly -----		1	1			
Vance -----	8	5	13			
Wake* -----	67	272	339			
Warren -----	4	2	6			
Washington* -----	8	20	28			
Wayne -----		190	190		1	1
Total in forty-eight counties ---	620	1,348	1,968	2	4	6
Death rate, per cent. -----				.003- -	.002- -	.003- -

\*Estimated.

## WANTED: A PHYSICIAN.

THE BULLETIN never accepts advertisements, but we always take pleasure in doing everything we can to protect the public health. A good physician is certainly a powerful agency in this cause, and we are glad to print the letter given below. We would call the reader's attention to its confirmation of the statements made in the Secretary's report.

SECRETARY N. C. BOARD OF HEALTH,  
*Raleigh, N. C.*

DEAR SIR:—We greatly need a physician at this place. We have to draw on a Virginia town fifteen miles distant for a doctor, and keep one busy most of the time; the demand in the country around is greater than the supply of M. Ds., hence we cannot hope to get one from any near-by point.

Will you please insert an "ad" in your next issue of THE BULLETIN for us? This is a thickly-settled section of mountain country, north-western part of Surry County, and a splendid opening for a good physician; a large territory. Those wishing to investigate can write to me.

Have heard that you insert such "ads" for points desiring it, hence this letter.

Thanking you in advance for the favor, I am,

Very truly,

LOWGAP, N. C.

T. N. WOODRUFF.

## REVIEW OF DISEASES FOR MAY, 1907.

## SEVENTY-THREE COUNTIES REPORTING.

Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of May the following diseases have been reported from the counties named:

MEASLES.—Alexander, 5 cases; Ashe, a few; Beaufort, 14; Bladen, a few; Burke, 20; Caldwell, 18; Camden, epidemic; Caswell; Chatham, 5; Cherokee, in all parts; Chowan, many; Cleveland, a few; Craven, a few; Cumberland, several; Davidson; Durham, many; Edgecombe, several; Forsyth, a few; Franklin, several; Granville, 40; Guilford, 3; Harnett, 9; Haywood, in all parts; Henderson, many; Hertford, 20; Jackson, 20; Johnston, in all parts; Lincoln, several; Mecklenburg; Montgomery, 31; Onslow; Randolph, many; Robeson, a few; Rowan, a few; Rutherford, 75; Swain, 50; Transylvania, a few; Union, many; Vance, many; Wake, 80, in western part; Warren, a few; Washington, 10; Yancey, several—43 counties.

WHOOPING-COUGH—Ashe, several; Beaufort, 8; Bladen, many; Caswell; Cherokee, a few; Chowan, many; Clay, several; Cleveland, many; Cumberland; Currituck, a few; Davie, many; Durham; Edgecombe, many; Forsyth, a few; Franklin, epidemic; Gates, in all parts; Granville, 8; Harnett, 12; Henderson, many; Hertford, 25; Hyde, a few; Lincoln, several; Martin, a few; Mecklenburg; Pasquotank, several; Randolph, in all parts; Richmond, many; Rutherford, 20; Union, several; Wake, 1; Warren, several; Washington, 30; Wilkes, 5—33 counties.

SCARLATINA—Alamance, 7; Alexander, 1; Caldwell, 2; Union, several; Wake, 1—5 counties.

DIPHTHERIA—Davie, 2; Granville, many; Lincoln, in all parts; Mecklenburg; Nash, 2; Wake, 2—6 counties.

TYPHOID FEVER.—Alexander, 10; Ashe, 6; Beaufort, 2; Burke, 1; Caldwell, 14; Chatham, 4; Clay, 2; Cleveland, 1 or 2; Cumberland; Edgecombe, 8; Forsyth, a few; Franklin, several; Gates, 5; Granville, 3; Guilford, 1; Harnett, 2; Henderson, 1; Jackson, 3; Lincoln, 2; Madison, in all parts; Martin, a few; Mecklenburg; Montgomery, 2; New Hanover, 4; Randolph, 2; Robeson, a few; Rutherford, 5; Wake, 4; Yancey, 1 or 2—29 counties.

MALARIAL FEVER.—Caswell, in all parts; Currituck, a few; Harnett, in all parts; Hyde; Johnston; Wake, 1—6 counties.

MALARIAL FEVER, PERNICIOUS.—Granville, 1; Hyde, a few.

BOWEL DISEASE.—Alamance: Alleghany, general; Beaufort; Brunswick; Burke, general, in children; Camden; Clay; Cleveland, mild; Harnett; Henderson, general; Hertford, 30; Iredell, general; Johnston; Macon, a mild form epidemic; Onslow; Rowan; Stanly, epidemic; Washington, general; Wilkes, general—19 counties.

INFLUENZA.—Ashe, in all parts; Caswell, in all parts; Currituck; Macon, in all parts.

MENINGITIS, CEREBRO-SPINAL.—Ashe, a few; Davie, 1; Harnett, 2; Martin, 1; Rutherford, 1; Wake, 2—6 counties.

MUMPS.—Onslow.

PNEUMONIA.—Alexander, 2; Alleghany, in all parts; Ashe, several; Beaufort, 4; Camden, 6; Caswell, several; Chatham, 1; Cherokee, several; Chowan, 1; Cleveland, a few; Duplin, 3; Durham, a few; Edgecombe, 2; Forsyth, a few; Gates, 6; Graham, 2; Harnett, 3; Hertford, 2; Iredell, 3; Jackson, 3; Lincoln, a few; Madison, in all parts; Martin, a few; Mecklenburg; Montgomery, 2; Pitt, 4; Randolph, 10; Robeson, a few; Rowan, a few; Rutherford, 10; Union, 3; Wake, 11; Warren, 2; Washington, 4; Watauga, 1—35 counties.

SMALLPOX.—Alamance, 5; Alexander, 1; Beaufort, 1; Bladen, 1; Burke, 2; Cabarrus, 1; Chatham, 1; Chowan, 27; Davidson, 12; Davie, 1; Edgecombe, 1; Forsyth, 8; Franklin, 7; Guilford, 25; Harnett, 12; Johnston, 6; Lincoln, 1; Nash, 2; New Hanover, 9; Robeson, 5; Rowan, 9; Wake, 59—22 counties.

CHOLERA, IN CHICKENS.—Davie.

No diseases reported from Bertie, Buncombe, Carteret, Catawba, McDowell, and Wilson.

No reports received from Anson, Columbus, Gaston, Greene, Halifax, Lenoir, Mitchell, Moore, Northampton, Orange, Perquimans, Person, Polk, Rockingham, Sampson, Scotland, Surry, Wayne, and Yadkin.

## SUMMARY OF MORTUARY REPORTS FOR MAY, 1907.

## NINETEEN TOWNS.

	White.	Col'd.	Total.
Aggregate population .....	117,050	72,250	189,300
Aggregate deaths .....	183	152	335
Representing temporary annual death rate per 1,000.....	18.8	25.2	21.2
<i>Causes of Death.</i>			
Typhoid fever .....	2	1	3
Malarial fever .....	1	3	4
Whooping-cough .....	1	1	2
Measles .....	4	1	5
Pneumonia .....	9	4	13
Consumption .....	17	17	34
Brain diseases .....	19	4	23
Heart diseases .....	10	19	29
Neurotic diseases .....	4	4	8
Diarrhœal diseases .....	39	21	60
All other diseases .....	70	74	144
Accident .....	4	2	6
Suicide .....	2	0	2
Violence .....	1	1	2
	183	152	335
Deaths under five years.....	72	52	124
Still-born .....	11	18	29



**Mortuary Report for May, 1907.**

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL		Deaths under five years. Still-born.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.	
Charlotte .....	W.	18,000	30,000	17.3	21.2	..	..	..	1	..	..	3	2	9	11	..	..	..	..	..	26	53	1	
Dr. F. O. Hawley.	C.	12,000		27.0		..	..	..	..	..	..	..	5	1	2	19	..	..	..	..	..	27	..	3
Durham .....	W.	10,000	18,000	26.4	30.0	..	..	..	..	2	2	3	2	1	..	..	..	..	..	..	22	45	10	
Dr. N. M. Johnson.	C.	8,000		35.7		..	..	..	..	..	..	1	1	1	1	..	20	..	..	..	..	23	45	10
Elizabeth City .....	W.	6,000	10,000	12.0	15.6	..	..	1	..	..	..	1	1	1	1	2	..	..	..	..	6	13	2	
Dr. H. D. Walker.	C.	4,000		21.0		..	..	..	..	..	..	1	1	..	..	2	2	..	..	..	..	7	12	4
Fayetteville .....	W.	3,500	6,000	6.8	20.0	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	2	10	1	
Dr. A. S. Rose.	C.	2,500		38.4		..	..	..	..	..	..	..	2	1	1	4	..	..	..	..	..	8	10	2
Greensboro .....	W.	10,000	15,000	24.0	28.0	..	..	..	..	..	2	2	1	..	8	6	1	..	..	..	20	35	9	
Dr. Edmund Harrison.	C.	5,000		36.0		..	..	..	..	..	..	1	2	1	1	5	5	..	..	..	..	15	35	4
High Point .....	W.	9,200	11,200	20.8	20.4	..	..	..	..	..	2	4	1	..	4	5	..	..	..	..	16	19	8	
Dr. C. E. Reitzel.	C.	2,000		18.0		..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	..	3	19	2
Lexington .....	W.	3,000	3,600	4.0	3.3	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	..	
J. H. Moyer, Mayor.	C.	600		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	1	..
Marion .....	W.	1,400	1,500	25.7	24.0	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..	3	3	1	
M. L. Justice, H. O.	C.	100		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	3	..
Oxford .....	W.	2,000	4,000	12.0	18.0	..	..	1	1	..	1	..	..	..	1	..	..	..	..	..	2	6	2	
Dr. S. D. Booth.	C.	2,000		24.0		..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	4	..	..
Raleigh .....	W.	9,000	16,000	29.3	24.7	1	..	..	..	..	1	2	1	1	..	15	..	..	..	..	122	33	10	
T. P. Sale, Clerk B. H.	C.	7,000		18.9		..	..	..	..	..	..	..	1	2	..	2	..	6	..	..	..	11	..	4
Reidsville .....	W.	4,000	6,000	24.0	22.0	1	..	..	..	..	..	..	..	1	2	4	..	..	..	..	8	11	12	
R. S. Montgomery, H. O.	C.	2,000		18.0		..	..	..	..	..	..	..	..	1	1	1	..	1	..	..	..	3	11	3
Rocky Mount .....	W.	5,000	8,000	28.8	22.5	..	..	..	..	..	1	5	1	4	1	..	..	..	..	..	12	15	8	
Dr. L. C. Covington.	C.	3,000		12.0		..	..	..	..	..	..	..	..	1	2	..	2	..	..	..	..	3	..	2
Salem .....	W.	3,400	3,800	10.6	18.9	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..	3	6	1	
S. E. Butner, Mayor.	C.	400		90.0		..	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	3	6	2
Salisbury .....	W.	7,400	11,000	4.9	9.8	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	3	9	..	
Dr. H. T. Trantham.	C.	3,600		20.0		..	..	..	..	..	..	..	..	..	2	..	1	1	2	..	..	6	..	2
Southport .....	W.	900	1,400	13.3	8.6	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	
Dr. J. A. Doshier.	C.	500		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	..	..
Tarboro .....	W.	2,500	3,500	19.2	13.7	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	4	4	..	
Dr. W. J. Thigpen.	C.	1,000		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	..	..
Wadesboro .....	W.	1,200	2,000	0.0	0.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	0	..	
Dr. J. H. Bennett.	C.	800		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	..	..
Weldon .....	W.	750	1,500	16.0	24.0	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	3	..	
J. T. Gooch, Mayor.	C.	750		32.0		..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	2	..	..
Wilmington .....	W.	16,000	30,000	14.2	17.6	..	1	..	..	..	1	4	1	2	3	3	8	2	1	..	26	58	8	
Dr. Charles T. Harper.	C.	14,000		21.4		1	1	..	..	..	..	..	2	2	9	2	5	9	..	..	..	..	132	..
Wilson .....	W.	3,800	6,800	15.8	17.7	..	..	..	..	..	..	..	1	..	4	..	..	..	..	..	5	10	1	
Dr. W. S. Anderson.	C.	3,000		20.0		..	..	..	..	..	..	..	2	..	1	..	2	..	..	..	..	5	..	2

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the whole number of deaths occurring within the corporate limits during the above month."

## County Superintendents of Health.

---

Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. J. H. Bennett.	McDowell .....	Dr. M. L. Justice.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
Beaufort .....	Dr. D. T. Tayloe.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan.
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. H. Maxwell.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. H. M. S. Cason.	Perquimans.....	Dr. C. C. Winslow
Clay .....	Dr. P. B. Killian.	Person .....	Dr. W. A. Bradshaw.
Cleveland .....	Dr. T. E. McBrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk .....	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. S. A. Henley.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. N. C. Hunter.
Currituck .....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam. Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. J. Gerald Murphy.	Sampson .....	Dr. J. O. Matthews.
Durham .....	Dr. N. M. Johnson.	Scotland .....	Dr. K. A. Blue.
Edgecombe .....	Dr. W. J. Thigpen.	Stanly.....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston .....	Dr. L. N. Glenn.	Swain.....	Dr. J. A. Cooper.
Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham .....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood.....	Dr. J. R. McCracken.	Watauga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. T. L. Ginn.
Hertford .....	Dr. J. H. Mitchell.	Wilkes.....	Dr. John Q. Myers.
Hyde.....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. S. L. Russell.
Jackson.....	Dr. H. F. Burgin.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. L. D. Wharton.		

CHAPEL HILL N C

Dr I H Manning

# BULLETIN

## OF THE

# NORTH CAROLINA BOARD OF HEALTH

*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.  
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RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XXII.

JULY, 1907.

No. 4.

### COMPULSORY VACCINATION.

Without the power to order and enforce compulsory vaccination it would be impossible to secure the vaccination of all the people—the only really effective preventive of smallpox. We are very glad, therefore, to chronicle another decision by our Supreme Court sustaining the right of the proper authorities to initiate and carry out such regulations. A decision of similar effect was *State v. Hay*, from Alamance, in 1900. We take much pleasure in giving below the able opinion of Justice Hoke. We are specially glad that Superintendent of Health Stewart was sustained, for he showed an earnest devotion to duty that deserves the highest praise:

#### MORGAN v. STEWART.

(Supreme Court of North Carolina, April 24, 1907).

*Malicious Prosecution—Want of Probable Cause—Criminal Prosecution.*

Revisal 1905, sec. 4451, provides that on the appearance of smallpox in a neighborhood, the sanitary committee of any county can make such regulations for the vaccination of its inhabitants and impose such penalties as they may deem necessary to protect the public health. Section 3455 provides that if any person shall violate any of the regulations of the sanitary authorities of any county as to vaccination he shall be guilty of a misdemeanor. Smallpox having

become prevalent in a county, and an epidemic being threatened, the sanitary committee passed a resolution that any person within a radius of three miles of any school-house who wilfully refused to be vaccinated or to allow any one in his charge to be vaccinated should be guilty of a misdemeanor, and the county superintendent of health was directed to enforce compulsory vaccination as necessary. Small-pox having developed within three miles of the plaintiff's school-house, the county superintendent requested that he be allowed to vaccinate plaintiff and his scholars, which request was refused, and the county superintendent instituted a prosecution against plaintiff which resulted in his acquittal: *Held*, in an action for malicious prosecution by plaintiff against the county superintendent, that there was probable cause for the prosecution of plaintiff by the county superintendent.

Appeal from Superior Court, Anson County. *Justice, Judge.*

Action by C. H. Morgan against Henry D. Stewart. From a judgment for plaintiff, defendant appeals. Reversed.

There was evidence to the effect that in February, 1906, the present defendant, who was at that time superintendent of health for Union County, had caused the arrest and trial before two justices of the peace of said county of the present plaintiff, who was then teaching a public school in Union, on a charge of wrongfully refusing to be vaccinated and to permit the vaccination of the pupils of his school, pursuant to regulations of the sanitary committee of that county. That on trial, had on March 10, 1906, the present plaintiff was acquitted, and thereupon instituted the action against defendant for malicious prosecution. At the close of the plaintiff's testimony, and again at the close of the entire testimony, there was motion on the part of the defendant to dismiss the action as on judgment of nonsuit. In that there was no testimony to sustain or justify a finding for the plaintiff on the issue as to want of probable cause for the prosecution complained of. The motion was denied, and defendant excepted. Verdict and judgment for plaintiff, and defendant excepted and appealed.

*R. B. Redwine* for appellant.

HOKE, J. It is accepted doctrine with us that on facts admitted and established the question of probable cause is one of law for the Court. *Jones v. Railroad*, 125, N. C., 229, 34 S. E. 398; *Bradley v. Morris*, 44 N. C., 395; *Swain v. Stafford*, 26 N. C., 392. And it is further held that the acquittal by a court which has jurisdiction to try and determine the question does not make out a *prima facie* case of want of probable cause. *Bell v. Percy*, 33 N. C., 233. Applying these principles, a careful examination of the record leads us to the conclusion that in no aspect of the testimony has the plaintiff made out his allegation of a want of probable cause for the prosecu-



tion, and there was error in refusing the defendant's motion to nonsuit.

There is no substantial divergence in the testimony presented, and it tends to show that for eighteen months prior to the occurrence smallpox had been prevalent in Union County, there having been as many as 572 cases in the year previous and 200 cases already developed in the current year; that one case existed one-half mile from the school-house in question and several others at a distance not much greater, and that at Waxhaw, within three miles, there were quite a number of cases. In the presence of these conditions, the sanitary committee of Union County met at Monroe, N. C., and, having been called to order by the chairman, passed a resolution looking to compulsory vaccination, as follows: "Any person or persons within a radius of three miles of any school-house who wilfully refuses to be vaccinated or to allow any one in his charge to be vaccinated shall be guilty of a misdemeanor." The committee, having fixed a fee for vaccination, allowed the superintendent of health to call in any doctor of the county to help him; and it was further ordered that the county superintendent of health proceed to enforce compulsory vaccination to such an extent as he might consider necessary. The substance of these proceedings was duly published in the county paper, and the plaintiff testified that he had been made aware of some such proceedings, but was not informed of their precise nature. The defendant, who was then superintendent of health in Union County, having heard that there were several cases of smallpox near the plaintiff's school, one within a half mile, and in sight, calls at the school-house, explains the conditions and the law, as he understands it, and requests that he be allowed to vaccinate the plaintiff and his scholars, and the request is refused. The plaintiff and defendant differ somewhat as to the precise terms; but, taking either version to be true, there was a refusal both as to the plaintiff and the scholars, or certainly as to some of them. Having referred the matter to the Secretary of the State Medical Board at Raleigh, and having been advised that the teacher was indictable and should be proceeded against, and, furthermore, having been shown a letter from the Attorney-General of the State to the Superintendent of Public Instruction, in which the Attorney-General advised that regulations similar to those of Union County could be lawfully enforced, the superintendent instituted the prosecution complained of and on which the present plaintiff was tried and acquitted.

Our statute law provides, in substance (Rev. 1905, sec. 4451), that on the appearance of smallpox in a neighborhood the authorities of any city or town or the sanitary committee of any county may make such regulations and provisions for the vaccination of its inhabitants, and impose such fines, as they may deem necessary to protect the public health. And section 3455 provides that "if any person shall

violate any of the rules and regulations of the sanitary authorities of any county in regard to vaccination he shall be guilty of a misdemeanor, and fined, not exceeding fifty dollars, or imprisoned, not exceeding thirty days." We find no precise form in which the resolutions of the county sanitary board should be couched, nor any specified or stated order of proceedings where such matters are to be considered or determined, and we see no reason why the order of the sanitary committee should not be upheld as a valid exercise of the authority conferred upon them by the statute. They could not declare the prohibited act a misdemeanor, because its status had already been so fixed by public law, but their resolution could still be received and construed as a regulation requiring parties within the prescribed territory to submit to vaccination: and the statute makes the refusal a misdemeanor within the jurisdiction of the justice of the peace. Legislation of this character has been upheld by well-considered decisions in this and other jurisdictions. *Hutchins v. Durham*, 137 N. C., 68, 49 S. E., 46; *State v. Hay*, 126 N. C., 999, 35 S. E., 459, 49 L. R. A., 588, 78 Am. St. Rep., 691; *Morris v. Columbus*, 102 Ga., 792, 30 S. E., 850, 42 L. R. A., 175, 66 Am. St. Rep., 243. And it is also well established that the Legislature can confer on local boards, certainly those clothed with government functions, the power to make reasonable regulations to protect the public health and to fix and establish facts or conditions on which a statute makes its own action depend. *State v. Railroad*, 141 N. C., 852, 54 S. E., 294, 8 Cyc., 820; Freund on Police Power, sec. 34. And while the local regulations are required to be reasonable, and are, to some extent, subject to judicial control, both as to the existence of an apprehended danger and the reasonableness of the relief (Freund on Police Powers, *supra*), we have held that "where a statute of this kind has been passed and the conditions established which call it into operation, it thus becomes a law binding on each and all alike, and it is optional to no one's private judgment whether to render compliance or not. If there are exceptional cases, where, owing to the peculiar state of the health or system, vaccination would be dangerous, that would be a matter of defense the burden of which would be on the defendant." *State v. Hay, supra*. In holding that there was probable cause for prosecuting the plaintiff, we intend to make no comment, certainly no adverse comment, either on the justices who tried and acquitted the plaintiff nor on the plaintiff himself. Both, no doubt, acted according to their best judgment and sense of duty, and there is much to be said in justification of the plaintiff's conduct. But the plaintiff's conduct here is not the important or controlling question. We are considering chiefly the conduct of the defendant and how the matter reasonably appeared to him. He was at that time superintendent of health of Union County, whose sworn duty it was to see that laws addressed to the subject



involved were enforced, and to carry out, as far as possible, the work as directed by the sanitary committee of his county and by the State Board of Health. Revisal 1905, sec. 4451. He notes that the county is threatened with an epidemic of smallpox, and the sanitary board has passed a resolution requesting each and every one within a radius of three miles of any case of smallpox to be vaccinated, and on the statute books is a law which makes it a misdemeanor to refuse to comply with this regulation; that this school is within such a radius and is in great danger of exposure, and under such conditions he applies to the plaintiff for permission to vaccinate both plaintiff and his scholars, and the application is refused.

There is also evidence tending to show that there was a disposition in many localities to obstruct the enforcement of these regulations, and, under such circumstances, the defendant consults with the Secretary of the State Board of Health as to the proper course to be pursued. That officer, who deservedly holds the confidence of every well-informed and patriotic citizen of the State by reason of his faithful and intelligent devotion to his duties and to the State's best interest, advises, upon all the facts, that the law has been broken, and that the public good requires that the prosecution should be instituted. The defendant then swears out the warrant and causes the plaintiff to be put on trial. Probable cause, in cases of this kind, has been properly defined as the existence of such facts and circumstances, known to him at the time, as would induce a reasonable man to commence a prosecution. *Cabiness v. Martin*, 14 N. C., 454; *Bell v. Pearcey*, *supra*.

It seems clear to us that in no aspect of the testimony, as the same is presented in this record, has there been a want of probable cause shown, and the Court below should have decided the case as on judgment of nonsuit.

Reversed.

### THE ANTISEPTIC BABY.

---

The antiseptic baby and the prophylactic pup  
Were playing in the garden when the bunny gamboled up;  
They looked upon the creature with loathing undisguised—  
He wasn't disinfected, he wasn't sterilized.

They said he was a microbe, a hot-bed of disease.  
And they boiled him in a vapor of a thousand-odd degrees;  
They froze him in a freezer as cold as banished hope,  
They washed him in permanganate with carbolated soap.

In sulphureted hydrogen they soaked his wiggly ears,  
And trimmed his frisky whiskers with a pair of hard-boiled shears.  
Then they donned their rubber mittens and took him by the hand.  
And elected him a member of the fumigated band.

There isn't now a microbe in the garden where they play.  
They swim in pure iodoform a dozen times a day;  
And each imbibes his rations from a hygienic cup,  
The bunny and the baby and the prophylactic pup.

## REVIEW OF DISEASES FOR JUNE, 1907.

## SEVENTY-NINE COUNTIES REPORTING.

Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of June the following diseases have been reported from the counties named:

MEASLES.—Alamance, 6; Ashe, several; Bladen, a few; Burke, 20; Cabarrus, 7; Caswell; Chatham, 1; Cherokee, in all parts; Chowan, several; Cleveland, a few; Columbus, 2; Cumberland; Davie, many; Forsyth, a few; Gaston, many; Granville, 20; Harnett, 66; Henderson, a few; Hertford, 20; Jackson, 60; Johnston, many; Lincoln, several; Mecklenburg; Montgomery, 20; Onslow; Person, 3; Randolph, 20; Rutherford, 40; Sampson, a few; Swain, 50; Wake, 12; Washington, many; Yadkin, a few—33 counties.

WHOOPING-COUGH.—Alamance, several; Ashe, a few; Bladen, many; Caswell, 50; Cherokee, a few; Chowan, several; Clay, a few; Cleveland, many; Currituck, a few; Davie, many; Edgecombe, several; Forsyth, a few; Gaston, 9; Gates, in all parts; Granville, 12; Harnett, 60; Henderson, several; Hertford, 5; Martin, several; Mecklenburg; Northampton; Randolph, in all parts; Richmond, 2; Rutherford, 40; Sampson, a few; Swain, 50; Wake, 10; Washington, many; Yadkin, a few—29 counties.

SCARLATINA.—Alamance, 1; Alexander, 1; Cleveland, a few; Gaston, 1; Mecklenburg; New Hanover, 1; Rutherford, 10; Union, epidemic, Wake, 1—9 counties.

DIPHTHERIA.—Ashe, a few; Davie, 2; Franklin, 2; Greene, 1; Macon, 1; New Hanover, 1; Orange, 1; Richmond, 1; Rowan, 1; Wake, 2—10 counties.

TYPHOID FEVER.—Alamance, 5; Alexander, 20; Ashe, 25; Bertie, 1; Bladen, 3; Brunswick, several; Burke, 18; Cabarrus, 30; Camden, 2; Caswell, 4; Catawba, 3; Chatham, 15; Cherokee, several; Chowan, 1; Clay, 7; Cleveland, many; Columbus, 4; Craven, 3; Cumberland; Davidson; Davie, a few; Edgecombe, 25; Forsyth, a few; Franklin, several; Gaston, 8; Gates, 12; Graham, 2; Granville, 2; Guilford, 9; Harnett, 26; Hertford, 10; Iredell, 30; Jackson, 4; Johnston, a few; Lincoln, several; Lenoir, 1; Macon, 8; Mecklenburg; Montgomery, 10; New Hanover, 3; Northampton, many; Orange, 1; Pender, 7;

Perquimans, a few; Person, 9; Randolph, 100; Richmond, 1; Rowan, 2; Rutherford, 10; Sampson, a few; Scotland, 15; Surry, 4; Swain, 1; Union, a few; Vance, a few; Wake, 14; Warren, 1; Washington, 2; Watauga, 1; Wayne; Wilson, a few; Yadkin, several—62 counties.

MALARIAL FEVER.—Alamance; Camden, in all parts; Currituck; Harnett; Hertford; Hyde; Northampton; Pender, Perquimans; Richmond; Rowan; Union; Wake; Wayne, in all parts—14 counties.

MALARIAL FEVER, PERNICIOUS.—Alamance, 1; Harnett, 11; Hyde, several; Wake, 1—4 counties.

MENINGITIS., CEREBRO-SPINAL.—Alamance, several; Camden, 1; Caswell, 5; Columbus, 1; Gaston, 1; Greene, 1; Wake, 1; Watauga, 1—5 counties.

MUMPS.—Richmond.

BOWEL DISEASES.—Alleghany, Burke, Chowan, Currituck, Graham, Lincoln, Onslow, Person, Surry, Yadkin—10 counties.

PNEUMONIA.—Alexander, 1; Alleghany, 1; Ashe, a few; Chat-ham, 1; Clay, 2; Davie, a few; Durham, 2 or 3; Gaston, a few; Harnett, 12; Henderson, 1; Iredell, 1; Jackson, 4; Lincoln, a few; Macon, 3; Martin, a few; Mecklenburg; Northampton, 2; Perquimans; Person, 1; Randolph, 2; Rowan, 1; Rutherford, 3; Wake, 6; Washington, 2; Watauga, 2—25 counties.

SMALLPOX.—Alamance, 4; Burke, 1; Chowan, 4; Columbus, 1; Durham, 3; Franklin, 4; Gaston, 3; Guilford, 12; Harnett, 1; Johnston, 24; Mecklenburg, 1; Nash, 1; Rutherford, 2; Wake, 1—14 counties.

CHOLERA, IN CHICKENS.—Davie.

CHOLERA, IN HOGS.—Harnett, Hertford.

TICKS, IN CATTLE.—Union.

No diseases reported from Buncombe, Carteret, Duplin, Pasquotank, Pitt, Polk. No reports received from Anson, Beaufort, Caldwell, Halifax, Haywood, Madison, Mitchell, Moore, Robeson, Rockingham, Stanly, Transylvania and Yancey.

## SUMMARY OF MORTUARY REPORTS FOR JUNE, 1907.

## TWENTY-ONE TOWNS.

	<i>White.</i>	<i>Col'd.</i>	<i>Total.</i>
Aggregate population .....	129,800	84,000	213,800
Aggregate deaths .....	153	160	313
Representing temporary annual death- rate per 1,000.....	14.1	22.8	17.6
<i>Causes of Death.</i>			
Typhoid fever .....	7	3	10
Malarial fever .....	0	5	5
Whooping-cough .....	2	3	5
Measles .....	1	0	1
Pneumonia .....	7	3	10
Consumption .....	11	19	30
Brain diseases .....	5	5	10
Heart diseases .....	13	13	26
Neurotic diseases .....	1	1	2
Diarrhœal diseases .....	34	40	74
All other diseases.....	67	59	126
Accident .....	2	7	9
Suicide .....	2	0	2
Violence .....	1	2	3
	153	160	313
Deaths under five years.....	64	57	121
Stillborn .....	8	13	21

## Mortuary Report for June, 1907.

TOWNS AND REPORTERS.	RACES.	POPULA- TION.		TEM- PORARY ANNUAL DEATH- RATE PER 1,000.	Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping- cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident. Suicide.	Violence.	TOTAL By Races.	TOTAL By Towns.	DEATHS. Deaths under five years.	Still-born.
		By Races.	Total.																				
Charlotte.....	W.	18,000	30,000	20.7	1					1	1	1		3	10	13	1			31	44	20	2
Dr. F. O. Hawley.	C.	12,000		13.0	1					1	1				1	9				13		4	3
Durham.....	W.	10,000	18,000	18.0								1			3	10		1		15	30	5	
Dr. N. M. Johnson.	C.	8,000		22.5								1	3	1	1	8	1			15	30	3	
Elizabeth City.....	W.	6,000	10,000	22.0							2	1	1		3	3				11	21	6	
Dr. C. B. Williams.	C.	4,000		30.0							1				5	4				10	7		
Fayetteville.....	W.	3,500	6,000	13.7	1										2	1				4	5	2	
Dr. A. S. Rose.	C.	2,500		4.8											1					1		1	
Goldsboro.....	W.	6,000	10,000	10.0	1						1	1				2				5	17	5	
Robt. A. Creech, H. O.	C.	4,000		36.0	1		1					2				7				12	17	5	1
Greensboro.....	W.	10,000	16,000	12.0	1							4		1	3					10	31	2	
Dr. Edmund Harrison.	C.	6,000		4.7							2	2			8					21	12	2	
High Point.....	W.	9,200	11,200	18.3	1							1	1		1	8	1			14	18	5	
Dr. C. E. Reitzel.	C.	2,000		24.0							1				11	1				4	18	1	
Lexington.....	W.	3,000	3,600	0.0																0	0		
J. H. Moyer, Mayor.	C.	600		0.0																0	0		
Marion.....	W.	1,400	1,500	0.0																0	0		
M. L. Justice, H. O.	C.	100		0.0																0	0		
Oxford.....	W.	2,000	4,000	18.0						1					1	1				3	5	1	
Dr. S. D. Booth.	C.	2,000		12.0						1				1						2	5	1	
Raleigh.....	W.	9,000	16,000	14.7								1	1		1	8				11	31	5	2
T. P. Sale, Clerk B. H.	C.	7,000		34.3							1	2		2	13	2				20	31	9	2
Reidsville.....	W.	4,000	6,000	15.0							1	1		3						5	8		
J. F. Smith, Clerk B. H.	C.	2,000		18.0							1			2						3			
Rocky Mount.....	W.	5,000	8,000	0.0										1	1					2	2		
Dr. L. C. Covington.	C.	3,000		8.0																			
Salent.....	W.	3,400	3,800	14.1											4					4	4	2	
F. H. Vogler, Mayor.	C.	400		0.0																0			
Salisbury.....	W.	7,400	11,000	13.0							2	2		2	1	1				8	13	1	
Dr. H. T. Trantham.	C.	3,600		16.7							3			1	1					5	3	1	1
Southport.....	W.	900	1,400	0.0										1						0	1		
Dr. J. A. Doshier.	C.	500		24.0																			
Tarboro.....	W.	2,500	3,500	19.2	1									1	2					4	5	1	
Dr. W. J. Thigpen.	C.	1,000		12.0												1				1			
Wadesboro.....	W.	1,200	2,000	10.0	1												2			3	4	2	
Dr. J. H. Bennett.	C.	800		45.0								1											
Weldon.....	W.	750	1,500	0.0																0			
J. T. Gooch, Mayor.	C.	750		16.0												1				1	1	1	
Wilmington.....	W.	16,000	30,000	17.2	1							3	1		1	7	9		1	23	53	12	3
Dr. Charles T. Harper.	C.	14,000		25.7		2						7	1	4	1	7	4	4		30	8	4	
Wilson.....	W.	3,800	6,800	12.6							2						2			4	11	2	
Dr. W. S. Anderson.	C.	3,000		28.0		3						2								2	7		

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."



### County Superintendents of Health.

Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. J. H. Bennett.	McDowell .....	Dr. M. L. Justice.
Ashe .....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
Beaufort .....	Dr. D. T. Tayloe.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen .....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan.
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. E. Headen.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. H. M. S. Cason.	Perquimans.....	Dr. T. P. McMullen.
Clay .....	Dr. P. B. Killian.	Person .....	Dr. W. A. Bradsher.
Cleveland .....	Dr. T. E. McBrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk .....	
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. S. A. Henley.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. N. C. Hunter.
Currituck .....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. John A. Ferrell.	Sampson .....	Dr. Frank H. Holmes.
Durham .....	Dr. N. M. Johnson.	Scotland .....	Dr. K. A. Blue.
Edgecombe .....	Dr. W. J. Thigpen.	Stanly.....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston.....	Dr. L. N. Glenn.	Swain.....	Dr. J. A. Cooper.
Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham .....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. F. Abel.	Watauga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. T. L. Ginn.
Hertford .....	Dr. J. H. Mitchell.	Wilkes.....	Dr. John Q. Myers.
Hyde .....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. S. L. Russell.
Jackson.....	Dr. H. F. Burgin.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. L. D. Wharton.		



# BULLETIN

## OF THE

# NORTH CAROLINA BOARD OF HEALTH

*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

GEO. G. THOMAS, M. D., <i>Pres.</i> , Wilmington.	T. E. ANDERSON, M. D.---Statesville.
S. WESTRAY BATTLE, M. D.---Asheville.	J. HOWELL WAY, M. D.---Waynesville.
HENRY W. LEWIS, M. D.-----Jackson.	W. O. SPENCER, M. D.-----Winston-Salem.
W. P. IVEY, M. D. -----Lenoir.	J. L. LUDLOW, C. E. -----Winston-Salem.
RICHARD H. LEWIS, M. D., <i>Secretary and Treasurer</i> , Raleigh.	

VOL. XXII.

AUGUST, 1907.

No. 5.

### WANTED—A PHYSICIAN.

We have just received a letter from Mr. Alphonso White of Winfall, Perquimans County, in which he says: "We need a good doctor to locate in Winfall. Our town has three hundred inhabitants and is on the N. and S. R. R.—a good place to live. There is a scope of country twenty miles long where he can get practice. A good doctor can get all the practice he can do." Those interested will please address Mr. White.

### FLIES AND DISEASE.

At this season of the year typhoid fever is especially prevalent. While most frequently transmitted by infected drinking water, the fact that it is carried by flies has been demonstrated and it is now held that this is a very common method of transmission. It is a very reasonable theory. Typhoid fever germs must be swallowed to cause the disease, therefore infection of food and drink with them renders this not only easy but certain. The bacilli are found in the body discharges, chiefly in those of active cases of the disease, but also for weeks after convalescence has been established, and likewise in those of some persons who are apparently healthy. This means that all surface privies not properly cared for are a menace to health, whether there be a case of typhoid fever in the family or not. Of

course the greatest danger lies in the discharges of a typhoid patient, and we wish to emphasize again the extreme importance of the *immediate* disinfection of all typhoid stools, or, at least, their protection against the access of flies until this can be done, as well as the importance of keeping flies out of the sick-room.

As being exactly in line with what we have said above, we give below a very interesting and instructive article copied in the Bulletin of the New York State Board of Health from the *Boston Medical and Surgical Journal*:

*"Tolerance of Typhoid.*—The 'carrier' of infectious germs has introduced a problem, hitherto unrecognized, into the sanitarian's work. Apparently healthy people are found who are the 'hosts' of bacilli which may be released from time to time, to find lodgment and cause disease in a susceptible individual. The tolerance of the bacilli carrier has possibly been acquired by the repeated invasion of attenuated organisms. With regard to typhoid, it is well to bear in mind that all the members of a farmer's family may have acquired this tolerance, if their water supply is infected, and be 'carriers'; the summer visitor on the farm, not being immune, may acquire the disease. Again, milk may be infected by a dairyman 'carrier,' although there may be no clinical evidence of disease to which a resulting epidemic can be traced.

*"Flies as Carriers of Disease.*—Health officers and physicians generally need to dwell heavily upon the part played by the common house fly in the transmission of disease. The fly is much more to be dreaded from this point of view than the mosquito, which is responsible for the propagation of two diseases only—malaria and yellow fever. On the other hand, it has been shown that the house fly can be the medium of transmission for anthrax, cholera, tuberculosis, filariasis, certain inflammatory eye affections, plague, typhoid fever, intestinal parasites, and wound infections. It has been suggested that the fly is also a factor in the spread of gonorrhea, smallpox and various skin affections.

"Flies, then, are neither harmless nor necessary, and public opinion should be educated to be intolerant of them. The control of the situation is within the province of the health officer as a sanitary official. The breeding ground of the fly is the manure pile, and every community should have its ordinance controlling this nuisance. Manure should not be allowed to stand in heaps, either on the street or in the stable-yard; it should be collected into closed vaults or covered metal receptacles as soon as possible after it is dropped, and at least once a day it should be covered with chloride of lime or sprinkled with a solution of sulphate of iron. Careful inspection of stables and a proper administration of the street cleaning department will diminish the possibility of transmitting disease to a very great extent. With regard to the spread of typhoid fever by flies, if this

takes place it is, in nine cases out of ten, the fault of the medical attendant and the health officer. Prompt disinfection and burial or other proper disposition of the excreta, and the absolute exclusion of flies from the sick-room should be insisted upon.

*"Contact Infection and Typhoid Carriers.*—It is asserted by Kutscher that in southwestern Germany direct contact is a more important factor in the spread of typhoid fever than polluted water, and that about 4 per cent. of typhoid patients become chronic carriers of the specific bacilli, which they excrete in both urine and feces, sometimes for long periods. Doerr, for example, cites cases reported by Drober and Hunner, in which the bacilli were isolated from the gall bladder seventeen and twenty years after recovery, and Lentz asserts that if after ten weeks from convalescence the excretion of the bacilli has not ceased, it will most likely continue permanently and uninterruptedly, in spite of medication. He cites a number of cases in which after ten, thirty and even forty-two years after recovery the excretion continued. Levy and Kayser report that in the autumn of 1905 a number of cases of typhoid fever occurred in an insane asylum, in which two years previously an inmate had had the disease and had recovered. On the appearance of these later cases, this person was examined and was found to be excreting the bacilli in her feces. Further examinations were made at intervals of several weeks, and the bacilli were found ten times. In October, 1906, she died of a typhoid bacillary septicemia, due to auto-infection from the gall bladder; and on autopsy the bacilli were isolated from the spleen, liver, bile, wall of the gall bladder and from the interior of a large gallstone.

"A somewhat similar case is reported by Nieter and Liefmann, also from an insane asylum in which the disease had been endemic for many months. A patient dead of chronic dysentery was examined and typhoid bacilli were found in the intestines and in pure culture in the gall bladder, in which were gallstones. Among 250 inmates were found 7 typhoid carriers.

"Klinger found among 1,700 persons 23 typhoid carriers, ranging in age from eighteen months to sixty years, 11 of whom had no typhoid history. Of 842 convalescents from the disease, 63, or 13.1 per cent. were found to be excreting the bacilli, and 8 were still doing so six weeks after recovery.

"Kayser, tracing outbreaks to their sources, found a boy of twelve years, a member of a milkman's family, to be a chronic carrier and the probable source of infection in a number of cases. Another outbreak, in which 17 persons were seized (2 deaths), was traced to a woman who had no typhoid history, but was excreting the specific bacilli. She was employed in the dairy from which the persons seized had obtained their milk. Of 260 cases of typhoid fever investigated 60 were traced to infected milk. Among the 60 victims were



30 maids and kitchen girls, 12 bakers, and 44 persons engaged more or less in kitchen work. In all, 28 cases were traced directly to apparently healthy typhoid carriers.

"Minelli examined 250 prisoners who had not been in contact with typhoid cases, and found but one who had the specific organism constantly in the feces. The agglutinative test was positive.

"Etienne and Thiry report the case of a man, sixty-four years of age, who, after four years in a hospital, under treatment for tabes and hemiplegia, had two attacks of jaundice, and on examination was found to be excreting typhoid bacilli in the feces.

"A series of 26 cases of the disease in fifteen families of a village in Lorraine is described by Seige, who states that diligent investigation by the district physician, the village authorities and the Bacteriological Institute of Saar-louis placed the responsibility upon a woman who was a chronic typhoid carrier.

"An interesting case of infection from direct contact is reported by Dr. H. MacKenzie and Mr. W. H. Battle. More than two years after a severe attack of typhoid fever, a man had an attack of femoral osteomyelitis, caused by *B. typhosus*. After operation the patient was discharged, but some time afterwards a sinus formed, the purulent discharge from which contained typhoid bacilli. The patient's wife had not been in contact with any other case, but frequently removed and burned the dressings. After a time she fell sick with typhoid fever, and died.

"In a letter to the writer, under date of April 3, 1907, in response to a request for information concerning a woman described in the press as a 'typhoid factory' and held under detention by the Department of Health of the City of New York, Dr. Walter BenseL says: 'The woman of whom you write has given a history of a probable mild attack of typhoid fever about six years ago. Since that time there have been undoubtedly twenty-eight cases of typhoid fever in the families in which she worked. The number of cases occurring in a family within a few weeks of her advent varied from one or two up to six out of seven members. The evidence seemed so strong that she was a carrier of typhoid fever that she was removed to Reception Hospital by force. Examinations of her feces and urine were made, and the typhoid bacilli found in her feces confirmed positively our suspicions with regard to the possibility of her conveying typhoid fever.'



## REVIEW OF DISEASES FOR JULY, 1907.

## EIGHTY COUNTIES REPORTING.

Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of July the following diseases have been reported from the counties named:

MEASLES.—Ashe, a few cases; Burke, 5; Chatham, several; Cherokee, several; Cleveland, a few; Davie, a few; Forsyth, a few; Gaston, many; Gates, 15; Graham, 3; Granville; Harnett, 21; Jackson, 40; Lincoln, several; Mitchell, 13; Randolph, in all parts; Rutherford, 15; Sampson, a few; Swain, 50; Union many; Wake, 4; Watauga, many; Yadkin, several; Yancey, several—24 counties.

WHOOPIING-COUGH.—Ashe, many; Caswell, 15; Cherokee, several; Chowan, several; Cleveland, a few; Davie, many; Edgecombe, several; Forsyth, a few; Gates, 10; Guilford, 3; Harnett, 14; Henderson, several; Lincoln, several; Macon, 4; Martin, several; Nash; Orange, 3; Pasquotank; Perquimans, 2; Randolph, in all parts; Rowan, many; Sampson, a few; Scotland, 24; Union, many; Wake, 4; Washington, many; Yadkin, several—27 counties.

SCARLATINA.—Alamance, 2; Buncombe, 2; Catawba, 4; Davie, 3; Gaston, 6; Macon, 1; Orange, 1; Surry, 2; Union, epidemic—6 counties.

DIPHTHERIA.—Beaufort, 1; Buncombe, 1; Catawba, 5; Cumberland, 1; Davidson, 1; Duplin, 1; Durham, 1; Edgecombe, 1; Gaston, 2; Guilford, 1; Henderson, 1; Macon, 2; Orange, 4; Randolph, 1; Union, 1; Warren, 1; Yancey, 1 or 2—17 counties.

TYPHOID FEVER.—Alamance, a few; Alleghany; Ashe, many; Beaufort, 4; Bladen, 6; Brunswick, several; Burke, 25; Cabarrus, 9; Caldwell, 20; Camden, 1; Caswell, 3; Catawba, 8; Chatham, 17; Cherokee, several; Chowan, 3; Clay, several; Cleveland, many; Columbus, 10; Craven, 4; Cumberland; Davidson, many; Davie, a few; Duplin, about 40; Durham, a few; Edgecombe, about 20; Forsyth; Gaston, many; Gates, 15; Graham, 1; Greene, 6; Guilford, about 20; Harnett, 29; Haywood, 4; Henderson, 2; Hertford, 20; Iredell, 10; Jackson, 6; Johnston, 6; Lincoln, several; McDowell, 8; Macon, 8; Madison; Martin, several; Mecklenburg; Mitchell, 12; Montgomery, 37; Nash; New Hanover, 6; Northampton, many; Orange, 1; Pasquo-

tank; Pender, 8; Perquimans, 8; Person, 20; Pitt, 12; Randolph, 15; Richmond, a few; Rowan, a few; Rutherford, 10; Sampson, several; Scotland, 12; Stanly, many; Surry, 12; Swain, 12; Union, many; Wake, 25; Warren, several; Washington, 1; Watauga, 3; Wilkes, 10; Yadkin, 10 or 12; Yancey, a few—72 counties.

MALARIAL FEVER.—Alamance, in all parts; Bertie; Caswell; Chowan; Columbus; Currituck; Davidson, in all parts; Edgecombe; Harnett, in all parts; Hertford, in all parts; Johnston; Lincoln, in all parts; Martin; Montgomery; Northampton, many; Onslow; Perquimans, in all parts; Randolph; Richmond; Stanly, in all parts; Washington—21 counties.

MALARIAL FEVER, PERNICIOUS.—Bertie, 2; Harnett, 1; Martin, 1.

MALARIAL FEVER, HEMORRHAGIC.—Edgecombe, 1; Martin, 2; Randolph, 2; Washington, 1—4 counties.

MENINGITIS, CEREBRO-SPINAL.—Caswell, 4; Chatham, 1; Cherokee, a few; Durham, 1; Graham, 1; Greene, 1; Martin, 1—7 counties.

BOWEL DISEASES.—Beaufort, Brunswick, Caswell, Currituck, Graham, Henderson, Onslow and Surry—8 counties.

PNEUMONIA.—Camden, 1; Durham, 2 or 3; Gaston, 3; McDowell, 1; Martin, 1; Mitchell, 4; Montgomery, 4; Perquimans, 5; Randolph, 1; Swain, 6; Wake, 1; Watauga, 2; Yadkin, 2—13 counties.

SMALLPOX.—Alamance, 30; Burke, 1; Cleveland, a few; Columbus, 5; Forsyth, 6; Guilford, 18; Johnston, 20; Madison, 5; Martin, 1; Mitchell, 20; Orange, 3; Pender, 1; Rowan, 5; Sampson, 2; Union, 1; Wake, 14; Watauga, 9—17 counties.

CHOLERA, IN CHICKENS.—Hertford.

CHOLERA, IN HOGS.—Harnett, Hertford.

RABIES, IN DOGS.—New Hanover, 7.

No diseases reported from Polk and Wilson. No reports received from Alexander, Anson, Franklin, Halifax, Hyde, Lenoir, Moore, Robeson, Rockingham, Transylvania, Vance and Wayne.

## SUMMARY OF MORTUARY REPORTS FOR JULY, 1907.

## TWENTY TOWNS.

	White.	Col'd.	Total.
Aggregate population .....	108,050	66,250	174,300
Aggregate deaths .....	128	143	271
Representing temporary annual death- rate per 1,000.....	14.2	25.09	18.6
<i>Causes of Death.</i>			
Typhoid fever .....	11	12	23
Malarial fever .....	1	8	9
Whooping-cough .....	2	1	3
Measles .....	0	1	1
Pnenmonia .....	4	3	7
Consumption .....	12	24	36
Brain diseases .....	7	6	13
Heart diseases .....	10	15	25
Neurotic diseases .....	5	6	11
Diarrhœal diseases .....	22	20	42
All other diseases.....	49	42	91
Accident .....	3	4	7
Suicide .....	2	0	2
Violence .....	0	1	1
	128	143	271
Deaths under five years.....	35	50	85
Still-born .....	4	18	22

## Mortuary Report for July, 1907.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH- RATE PER 1,000.															TOTAL By Races.	By Towns.	Deaths under five years.	Still-born.		
		By Races.	Total.	By Races.	Total.	Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	By Races.	By Towns.	
Durham .....	W.	10,000	18,000	20.4	22.0	2			1		1	2	1		6	4		17			17	33	6	1
Dr. T. A. Mann.	C.	8,000		24.0		2							2	3			6	3		16			33	8
Elizabeth City .....	W.	6,000	10,000	16.0	26.4						1	1			4	2		8			8	22		1
Dr. C. B. Williams.	C.	4,000		42.0									5			3	6		14			22		
Fayetteville .....	W.	3,500	6,000	3.4	14.0										1			1			1	7	1	
Dr. A. S. Rose.	C.	2,500		28.8		1							1	1	1		1	1		6			7	
Goldsboro .....	W.	6,000	10,000	10.0	15.6	1						1	1		1	1		5			5	13	3	2
Robt. A. Creech, H. O.	C.	4,000		24.0		2							1	1		1	2	1		8			13	4
Greensboro .....	W.	10,000	16,000	12.0	17.2	1					1	2	2			3	1	10			10	23	2	1
Dr. Edmund Harrison.	C.	6,000		26.0		1							5				2	5		13			23	4
High Point .....	W.	9,200	11,200	18.3	16.0	2						1			4	7		14			15	7		
Dr. C. E. Reitzel.	C.	2,000		6.0									1						1	1			1	
Lexington .....	W.	3,000	3,600	8.0	6.7							1				1		2			2	3	1	
J. H. Moyer, Mayor.	C.	600		20.0									1						1	1			3	1
Marion .....	W.	1,400	1,500	17.1	16.0									1		1		2			2			
M. L. Justice, H. O.	C.	100		0.0															0	2				
Oxford .....	W.	2,000	4,000	6.0	6.0										1			1			1	2	1	
Dr. S. D. Booth.	C.	2,000		6.0													1			1			2	1
Raleigh .....	W.	12,000	20,000	20.0	27.0	2					1	3	1	2		10	1	20			20	45	4	1
T. P. Sale, Clerk B. H.	C.	8,000		37.5		4							3	1	2		13	1	125	45			16	2
Reidsville .....	W.	4,000	6,000	6.0	14.0							1			1			2			5	7	1	
J. F. Smith, City Clerk.	C.	2,000		30.0								1	3			1			5	7				
Rocky Mount .....	W.	5,000	8,000	7.2	4.5											3		3			3	3		
Dr. L. C. Covington.	C.	3,000		0.0															0	0			0	
Salant .....	W.	3,400	3,800	17.6	18.9	2										3		5			5	6		
F. H. Vogler, Mayor.	C.	400		30.0													1		1	6				
Salisbury .....	W.	7,400	11,000	8.1	12.0							2			1	1		5			5	11	1	
Dr. H. T. Trantham.	C.	3,600		20.0											1	1	4		6	11			1	
Southport .....	W.	900	1,400	0.0	8.6										1			0			0	1	1	
Dr. J. A. Dosher.	C.	500		24.0																			1	
Tarboro .....	W.	2,500	3,500	9.6	13.7	1											1	2			2	4	1	
Dr. W. J. Thigpen.	C.	1,000		24.0							1	1								2				
Wadesboro .....	W.	1,200	2,000	0.0	0.0													0			0	0		
Dr. J. H. Bennett.	C.	800		0.0																0				
Weldon .....	W.	750	1,500	32.0	24.0						1					1		2			2	3	1	
J. T. Gooch, Mayor.	C.	750		16.0													1		1	3			3	1
Wilmington .....	W.	16,000	30,000	17.3	22.0							1		4	1	7	9	23			23	55	8	
Dr. Charles T. Harper.	C.	14,000		27.4		2	4						1	3	1	9	2	6	3	32			55	9
Wilson .....	W.	3,800	6,800	19.0	23.2		1				1		1	1	2		6	16			16	2		
Dr. W. S. Anderson.	C.	3,000		40.0					4						1	1	3	1	10					

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the whole number of deaths occurring within the corporate limits during the above month."

### County Superintendents of Health.

---

Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. J. H. Bennett.	McDowell .....	Dr. M. L. Justice.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
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Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. H. M. S. Cason.	Perquimans .....	Dr. T. P. McMullen.
Clay .....	Dr. P. B. Killian.	Person .....	Dr. W. A. Bradsher.
Cleveland .....	Dr. T. E. Maxbrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk .....	
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. S. A. Henley.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. N. C. Hunter.
Currituck .....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. John A. Ferrell.	Sampson .....	Dr. Frank H. Holmes.
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Edgecombe .....	Dr. W. J. Thigpen.	Stanly.....	Dr. J. N. Anderson.
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Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
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Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham .....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren .....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. F. Abel.	Watauga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. T. L. Ginn.
Hertford .....	Dr. J. H. Mitchell.	Wilkes.....	Dr. John Q. Myers.
Hyde.....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. S. L. Russell.
Jackson.....	Dr. H. F. Burgin.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. L. D. Wharton.		





CHAPEL HILL N C

BULLETIN

Dr I H Manning

OF THE

# NORTH CAROLINA BOARD OF HEALTH

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*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

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S. WESTRAY BATTLE, M. D.--Asheville.

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W. P. IVEY, M. D. -----Lenoir.

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RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

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VOL. XXII.

SEPTEMBER, 1907.

No. 6.

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## THE DEATH OF DR. MURPHY.

In the passing away of Dr. P. L. Murphy, Superintendent of the of the State Hospital for the Insane at Morganton, on September 11th. the State lost one of its foremost men and most useful citizens. In the magnificent institution over which he presided from its beginning, twenty-four years ago, continuously enlarged and perfected under his inspiration and direction, he has left a monument worthy of his ability and single-hearted devotion to its interests. He was endowed with a vigorous intellect, characterized by the genius of common sense and the special gift of rare executive power. For many years we, as one of a committee from the Board of Health, have made the official inspections under the law, and it rarely ever happened that we found anything to criticise, and when we did it was almost invariably called to our attention by him, whose watchful eye nothing escaped, with the request that we aid him in securing its correction by the Board of Directors or by the Legislature. We never visited the Hospital that we were not filled with admiration, not only of the magnificent buildings and beautiful grounds, but chiefly of its administration—so extensive, so complex, and yet running so smoothly and noiselessly under the master hand that controlled it. Moreover and above all, he had a heart of gold, and his interest in and devotion to his afflicted wards were touching. And they repaid it with a respect and affection seldom seen.

We give below a rarely discriminating, just and beautiful tribute from the pen of the distinguished editor of the *Charlotte Observer*.

for many years a member and president of the Board of Directors of the Hospital:

PATRICK LIVINGSTON MURPHY.

The State is prepared, so far as there can ever be preparation for tidings of the death of one so widely known, so beloved and so useful to his generation, for the announcement of the passing of Dr. P. L. Murphy, late Superintendent of the State Hospital at Morganton. For more than a year an inexorable enemy had been sapping his vitality, and yesterday completed its fatal work. The time and circumstances are not auspicious to the writing of those things which should be now written, and yet no time would suffice for putting on record a fit memorial of this man. It is best writ in the magnificent institution over which he presided from the day of its opening until his incapacity, and in the hearts of the thousands of North Carolinians who, in themselves or through family or friends, were beneficiaries of his skill. It is not too much to say that he was the foremost alienist of the South, or that the State Hospital at Morganton is at the head of institutions of its class in the section. It was his very life. From a red and barren hill he had seen the place transformed into one of surpassing beauty, and had witnessed the growth of the institution from a modest beginning into one which now shelters and cares for more than eleven hundred patients. A multitude has entered its doors with minds diseased and emerged with reason restored and themselves restored to their families and to their usefulness to society.

Of his skill in his specialty all North Carolina knows, and his executive ability, his tact in management, are scarcely less known. A Scotchman of Scotchmen, he was endowed with all the strength of mind and body, all the conviction and pertinacity of purpose, of the peculiarly strong and forceful race. The antipodal elements of rugged power and of tenderness which, when we see united, make a product which we remark upon and wonder at, were perfectly blended in him, forming a character which compelled both admiration and affection. To him all men and women were as one. There were none too humble to enlist his sympathy or challenge his best skill, and to the lowliest people of the State the news of his death will carry as keen a pang as will be felt in the hearts of the highest. It is his glory that in his exalted professional life he knew no distinction between classes.

To undertake to recite Dr. Murphy's qualifications for his life-work, how fully he met and surpassed every expectation, how grandly he lived up to his great opportunities and fulfilled his mission to humanity, would be only to repeat to North Carolina what is familiar history; and it is not certain that one who so much loved him as a friend and sorrows so greatly on account of his death could write in moderation of him at his open grave. To thousands this event is a personal bereavement—greatest to those who knew the subject best. There was never a man more lovable in his close personal relations.

The public admired him for his ability, and all have gratitude toward him for what he has done for North Carolina. His familiars loved him for his golden heart, which was ever ready to melt in sympathy or at the call for charity; for the loyalty of his friendship, for his high honor and his unswerving fidelity to any cause which he espoused.

Engaging in every way, Dr. Murphy added varied scholarship to his qualities of charm. There was no conversation to which he could not contribute; there was no company in which he did not shine. The pale messenger, in beckoning him, has called one of the front rank of North Carolinians.

On the sloping, velvet-like lawn on which his eye has so often dwelt with delight, in the shadow of the great buildings which are his best monument, they will lay him away to-day to await the call for the accounting, to which he will answer, unafraid, for the deeds done in the body.

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## PUBLIC WATER SUPPLY AND SEWERAGE.

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By CHARLES FRANCES, C. E., Davenport.

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These are very important factors in the public health, and it is most unfortunate that, while the value of the water supply is fully recognized, the very great importance of sewerage system as a necessary part of the water supply is so little understood or appreciated.

The value of an abundant supply of wholesome water in a community is without measure. This goes without saying. Everybody knows it, and it will not be discussed here.

The general idea of a public water supply, referring now to smaller cities and towns, "of less than 5,000 inhabitants," as the law has it, is this: To drive a well, set up a tank, provide a pump and engine, and distribute the water through the town by pipes, etc., and to charge a rate per thousand gallons, or per tap, bath-tub, and sink, and so on, sufficient to pay interest on first cost, to provide a sinking fund and to pay for maintenance. This is quite right and proper as far as it goes, but it does not go far enough—it is not a complete plan.

It is a great convenience, certainly, to have good, wholesome water brought into your house; it means a greater degree of cleanliness, for the ease with which it is had means a larger and more general use of it, and thus its introduction becomes an excellent hygienic measure. But this water, so conveniently applied to your premises, is used and is changed into sewage in the using, and this sewage must be taken away from your premises just as thoroughly and effectively and with just as much pains and care as were used in introducing the water. Now, the question is, What is to be done with this sewage? It can-

not, or should not, be thrown into the street or alley, nor should it be allowed to drain away to low grounds. *Again, those most common of all pretenses of disposing of sewage, known as leeching cess-pools, should not be thought of for a moment, for they are simply pestiferous abominations, which act well for a short time and then become very dangerous nuisances.* (Italics ours.)

The only way by which sewage can be properly removed from premises, dwellings and the like is by a properly constructed sewerage system, with its purifying plant at its outlet: and, correlative to this, we may say with absolute certainty that the sewerage system is a very important part of the water system—just as important a part of it, in fact, as the well is, or the pump, or the water-pipes and connections.

Thus, a small city or town, having determined to establish a public water supply, should, as a part of the engineering of this project, have an estimate made of the approximate cost of an adequate sewerage system, and the money value of the water plant should include the cost of the sewerage system, and the water rate established on the basis of the whole cost.

When the sewerage system is fully paid for—say in fifteen years—the water rate may be reduced, so as to include only the maintenance of the sewerage system. But in any extension of the water system the water rate should include the cost of the sewer extension, which rate should be maintained only until the sewer extension is paid for.

There can be no doubt that some means should be provided by which small cities and towns may construct a general sewerage system. It is imperatively demanded in those cities of the second class which have or contemplate having a public water supply. One solution of the problem is presented here. It would be well to have this matter fully discussed, by which discussion some remedy, if not the one herein suggested, then some other, may be found by which the smaller cities and towns may be properly sewered and be allowed to apply proper sanitary and hygienic methods in their communities.

[The board fully realizes the deplorable condition of many of our smaller towns, owing to the lack of sewerage facilities; and if no legal obstacles intervene, the method outlined by Colonel Frances offers the best solution of this vexed problem.]—*Iowa Health Bulletin.*



## REVIEW OF DISEASES FOR AUGUST, 1907.

## EIGHTY-FOUR COUNTIES REPORTING.

Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of August the following diseases have been reported from the counties named:

MEASLES.—Ashe, epidemic; Caswell, several; Cherokee, several; Edgecombe, 1; Graham, several; Jackson, 20; Johnston; Lincoln, a few; Martin, a few; Mecklenburg; Mitchell, many; Randolph, a few; Richmond, 1; Rockingham; Sampson; Scotland, 1; Wake, 4; Warren, 1; Washington, many—19 counties.

WHOOPING-COUGH.—Ashe, a few; Caswell, several; Cherokee, a few; Cumberland; Davie, several; Edgecombe, several; Harnett, 7; Lincoln, several; Macon, 6; Martin, a few; Mecklenburg; Northampton; Orange, 3; Pasquotank, many; Perquimans, 12; Randolph, several; Richmond, several; Rockingham; Rowan, 10; Scotland, many; Wake, 2; Washington, a few; Wilson, 1—23 counties.

SCARLATINA.—Alexander, 15; Buncombe, 2; Cabarrus, 7; Catawba, 2; Forsyth, 1; Gaston, many; Graham, 8; Guilford, 5; Henderson, 6; Iredell, 4; Macon, 2; Mecklenburg; Montgomery, 7; New Hanover, 2; Person, 1; Rowan, 1; Surry, 5; Union, epidemic; Wilkes, 3—19 counties.

DIPHTHERIA.—Ashe, a few; Catawba, 3; Craven, 5; Cumberland, 2; Davie, 1; Durham, 3 or 4; Edgecombe, 2; Gaston, 1; Haywood, 1; Henderson, 1; Hertford, 1; Iredell, 1; McDowell, 2; Mecklenburg; Northampton, 4; Orange, 12; Rowan, 5; Rutherford, 3; Sampson, 1; Union, 1; Wake, 1; Wayne, 3; Wilkes, 3; Yancey, a few—24 counties.

TYPHOID FEVER.—Alamance, 7; Alexander, 20; Alleghany, 2; Ashe, in all parts; Beaufort, 4; Bladen, 3; Brunswick, 2; Burke, 5; Cabarrus, 5; Caldwell, several; Camden, 5; Carteret, a few; Caswell, 2; Catawba, 7; Cherokee, several; Chowan, 1; Clay, several; Columbus, 5; Craven, 6; Cumberland; Currituck, 2; Davidson, several; Davie, a few; Duplin, 60; Durham, a few; Edgecombe, several; Forsyth, a few; Franklin, several; Gaston, several; Gates, 21; Graham, 2; Granville, 8; Greene, 10; Guilford, 21 from the central part; Harnett, 22; Haywood, a few; Henderson, 6; Hertford, 40; Iredell, 19; Jackson, 5; Johnston; Lincoln, about 20; McDowell, 8; Macon, 4; Madison, a few;

Martin, several; Mecklenburg; Mitchell, many; Montgomery, 27; Nash; New Hanover, 3; Northampton, many; Orange, 1; Pasquotank, several; Pender, 1; Perquimans, 8; Person, 21; Pitt; Randolph, 15; Richmond, several; Robeson, several; Rockingham, many; Rowan, 28; Rutherford, 3; Sampson, a few; Scotland, 12; Surry, 10; Swain, 10; Transylvania, 1; Union, many; Vance, many; Wake, 21; Warren, several; Washington, 1; Watauga, 2; Wayne, several; Wilkes, 6; Yadkin, a few; Yancey, 3—79 counties.

MALARIAL FEVER.—Alamance, in all parts; Brunswick, in all parts; Cabarrus; Camden, in all parts; Carteret; Caswell; Chowan, Craven, Currituck, in all parts; Davie; Gates; Harnett, Hertford, in all parts; Hyde; Lincoln, in all parts; Martin; Montgomery; Northampton; Onslow, a few cases; Randolph; Richmond; Rowan, in nearly all parts; Watauga—23 counties.

MALARIAL FEVER, PERNICIOUS.—Cabarrus, 1; Gates, 2; Hyde, several; Martin, 2; Randolph, 1; Watauga, 1—6 counties.

MALARIAL FEVER, HEMORRHAGIC.—Hyde, 1.

BOWEL DISEASES.—Graham; Richmond; Surry; Transylvania, in all parts.

CEREBRO-SPINAL MENINGITIS.—Martin, 1; New Hanover, 1; Person, 1; Randolph, 1; Wilson, 1—5 counties.

PNEUMONIA.—Alexander, 1; Burke, 1; Carteret, 2; Clay, 1; Davidson, 1; Gaston, 1; Gates, 2; Henderson, 1; Jackson, 4; Martin, 2; Nash, 1; Perquimans, 3; Randolph, 2; Vance, 6; Watauga, 1; Wilson, 2; Yadkin, a few—17 counties.

SMALLPOX.—Alamance, 29; Cabarrus, 1; Camden, 7; Chowan, 1; Davie, 1; Guilford, 3; Madison, 15; Martin, 1; Mitchell, many; Nash, 1; Orange, 6; Pitt, 1; Rockingham, 9; Warren, 3; Watauga, 6; Wayne, 1—16 counties.

CHOLERA, IN HOGS.—Harnett, Hertford.

DISTEMPER, IN HORSES.—Ashe.

No diseases reported from Bertie. No reports received from Anson, Chatham, Cleveland, Halifax, Moore and Stanly.



## SUMMARY OF MORTUARY REPORTS FOR AUGUST, 1907.

## TWENTY-THREE TOWNS.

	White.	Colored.	Total.
Aggregate population .....	135,450	89,350	224,800
Aggregate deaths .....	141	187	328
Representing temporary annual death- rate per 1,000.....	12.5	25.00	17.5

*Causes of Death.*

Typhoid fever .....	14	12	26
Scarlet fever .....	1	0	1
Malarial fever .....	2	9	11
Diphtheria .....	1	1	2
Whooping-cough .....	1	4	5
Measles .....	3	1	4
Pneumonia .....	3	8	11
Consumption .....	14	29	43
Brain diseases .....	12	10	22
Heart diseases .....	7	13	20
Neurotic diseases .....	1	3	4
Diarrhœal diseases .....	24	22	46
All other diseases.....	55	66	121
Accident .....	3	9	12
Total.....	141	187	328
Deaths under five years.....	53	53	106
Still-born .....	9	17	26

**Mortuary Report for August, 1907.**

TOWNS AND REPORTERS.	RACES.	POPULA- TION.		TEM- PORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL	By Towns.	DEATHS. Deaths under five years. Still-born.		
		By Races.	Total.	By Races.	Total.																	By Races.			Total.	
Charlotte	W.	18,000	30,000	12.7	17.6	2	2	1		1	1	1	1					11				19		6	2	
Dr. F. O. Hawley.	C.	12,000		25.0				1	2					1	1				18	2			25	44	8	2
Durham	W.	10,000	18,000	16.8	24.6								2	1			4	5	2			14		3		
Dr. T. A. Mann.	C.	8,000		34.5		2	1	1			3	2						9	4	1			23	37	11	2
Edenton	W.	1,400	4,000	25.7	27.0	1						1					1					3		9		
H. M. D. Cason.	C.	2,600		27.7									4					2						6		1
Elizabeth City	W.	6,000	10,000	16.0	24.0				1				2				3	1	1			8		20	6	1
Dr. C. B. Williams.	C.	4,000		36.0		2		1						1				5	3				12	20	7	
Fayetteville	W.	3,500	6,000	34.3	24.0	2							2	2			2	2				10		12	3	
Dr. A. S. Rose.	C.	2,500		9.6										1				1					2		2	
Goldsboro	W.	6,000	10,000	4.0	10.8							1				1						2		9	1	
Robt. A. Creech, H. O.	C.	4,000		21.0		2	1											3	1					7		5
Greensboro	W.	10,000	16,000	16.8	21.0	1	1					2	1			3	6					14		28	7	1
Dr. Edmund Harrison.	C.	6,000		28.0		1					1	5	1		1	5			1	5					14	28
High Point	W.	9,200	11,200	18.3	25.7	3				1	1		3	1		4	1					14		10	1	
Dr. C. E. Reitzel.	C.	2,000		60.0		1					1	3		3				2						10	24	1
Lexington	W.	3,000	3,600	4.0	10.0												1					1		3		
J. H. Moyer, Mayor.	C.	600		40.0														1	1							
Marion	W.	1,400	1,500	8.6	16.0	1																1		2		
M. L. Justice, H. O.	C.	100		120.0														1								
New Bern	W.	7,000	14,500	5.1	9.2							1				2						3		12		2
Dr. Charles Duffy.	C.	7,500		14.4		1	1	1			3				3			3						9	12	
Oxford	W.	2,000	4,000	24.0	15.0	1										1	2					4		5	1	1
Dr. S. D. Booth.	C.	2,000		6.0										1												
Raleigh	W.	13,000	22,000	21.2	25.3	1						2	3			3	14					23		42	7	1
T. P. Sale, Clerk B. H.	C.	9,000		28.5		1					4	4						10						19	42	4
Reidsville	W.	4,000	6,000	15.0	22.0						1	1		1			2					5		11		1
J. F. Smith, City Clerk.	C.	2,000		36.0		1					1		1					1	2							
Rocky Mount	W.	5,000	8,000	2.4	9.0	1																1		6	1	1
Dr. L. C. Covington.	C.	3,000		20.0										1		1	1	1						5		
Salem	W.	3,400	3,800	3.5	6.3												1					1		2		
T. H. Vogler, Mayor.	C.	400		30.0														1								
Salisbury	W.	7,400	11,000	3.2	7.6	1							1									2		7	1	
Dr. H. T. Trantham.	C.	3,600		16.7											1			3	1					5	7	3
Southport	W.	900	1,400	13.3	8.6								1									1		1		
Dr. J. A. Doshier.	C.	500		0.0																				0		
Tarboro	W.	2,500	3,500	0.0	27.4																					
Dr. W. J. Thigpen.	C.	1,000		96.0		1								1		1		5								8
Wadesboro	W.	1,200	2,000	0.0	0.0																	0		0		
Dr. J. H. Bennett.	C.	800		0.0																				0		
Weldon	W.	750	1,500	0.0	0.0																	0		0		
J. T. Gooch, Mayor.	C.	750		0.0																						
Wilmington	W.	16,000	30,000	9.0	12.8							1	2			1	1	7				12		32	3	6
Dr. Charles T. Harper.	C.	14,000		17.1				1						6	1	5	2	3	2					20		
Wilson	W.	3,800	6,800	9.5	23.2								1		1				1			3		14		7
Dr. W. S. Anderson.	C.	3,000		44.0					3	1			2		1				2	2				11		

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

### County Superintendents of Health.

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Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. J. H. Bennett.	McDowell .....	Dr. M. L. Justice.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
Beaufort .....	Dr. D. T. Tayloe.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan.
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. E. Henderson.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
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Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. F. Abel.	Watauga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. T. L. Ginn.
Hertford .....	Dr. J. H. Mitchell.	Wilkes.....	Dr. John Q. Myers.
Hyde.....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. S. L. Russell.
Jackson.....	Dr. H. F. Burgin.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. L. D. Wharton.		



Dr I H Manning

# BULLETIN

## OF THE

# NORTH CAROLINA BOARD OF HEALTH

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VOL. XXII.

OCTOBER, 1907.

No. 7.

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### THE AMERICAN PUBLIC HEALTH ASSOCIATION.

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The thirty-fifth annual meeting of the American Public Health Association, held at Atlantic City, September 30th to October 4th, was well attended and was quite interesting and successful. Decided progress was made in the organization of a Section on Vital Statistics, with a full program of valuable papers. Steps were taken looking to the organization at the next meeting of a Section on Municipal Sanitation. When this is perfected there will be three Sections, the Laboratory Section having been in existence several years. Laboratory work has become so important in the solution of sanitary questions and in the practical administration of preventive medicine that the great value of this Section, in which the workers in laboratories of hygiene can discuss their special problems and advise together as to the best methods, is apparent. At the general session a large number of papers on a variety of subjects germane to the general cause were read and discussed.

The American Public Health Association is the oldest, largest and most influential organization for the promotion of the public health on the continent. It is an international society, embracing the United States, the Dominion of Canada and the Republics of Mexico and Cuba. Its membership is cosmopolitan, not only as to nationality, but also as to calling, its roll including health officers, Federal, State and municipal; members of boards of health; delegates from the Marine Hospital Service, the Army and the Navy; sanitary engineers; biolo-



gists; statisticians; physicians and public-spirited laymen interested in the great work for humanity, which is its object. One hundred and seven new members were enrolled at Atlantic City.

Our State, and especially the Board of Health, was honored by the unanimous election of the secretary of the latter as president, with a cordiality that was deeply gratifying to the recipient.

The Association was very hospitably and acceptably entertained by the local authorities and by the Sanitary Association of New Jersey, which met with us one day.

The next meeting will be held at Winnipeg, the flourishing capital of the province of Manitoba, Canada, sometime in August, 1908.

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### SHALL CONSUMPTIVES BE EXCLUDED FROM THE SCHOOLS?

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By C. O. PROBST, M. D.,

*Secretary of Ohio State Board of Health.*

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It was not until 1886 that the cause of tuberculosis was discovered, and it was still later that the medical profession in general accepted the fact that this disease may be communicated, directly or indirectly, from person to person. There may still be found here and there physicians who dispute this. Among the people at large there is probably a considerable number who regard consumption as a purely hereditary, non-communicable disease. Society is gradually arming itself against this terrible scourge, and boards of health should take the lead in this movement. An attempt to enforce extreme views always retards any cause requiring the consent of the people.

No one hesitates to exclude cases of smallpox or scarlet fever from school, and if consumption were transmitted as are these diseases, there would be no need to discuss this question. It is not, and is essentially different from the ordinary contagious diseases, as will be noted further on.

As the greatest hope of the consumptive for cure is in a life in the open air, it would be a most unhappy thing for the hundreds of thousands of victims of this disease if society should demand their strict isolation.

We have no means of knowing how many consumptive scholars and teachers there are in the public schools, nor have we accurate information of the number of school age dying annually of consumption. Some idea is given in a table recently published, showing the deaths from consumption in three States and two cities, having an aggregate population of 8,411,519. During a five-year period, ending with 1900, there were in this population 7,369 deaths from consumption of per-



sons under twenty years of age. This is at a rate of 1.474 deaths each year in a population something over twice that of Ohio.

Consumption is of such long duration that the exclusion from school of all those affected is not to be entered into without due consideration. In deciding whether it is necessary to do so or not, we should understand how this disease is communicated from person to person.

Consumption is caused by the growth in the lungs of a vegetable parasite—the bacillus tuberculosis. It is supposed that this germ is usually inhaled and carried directly to the lungs. We are not sure, however, that in some cases it may not be swallowed, or taken into the system by some other channel, and then reach the lungs by way of the lymphatic system. The germ is cast out of the body of a consumptive by expectoration. Millions of these germs may be expectorated each day.

Cornet, whose experiments have controlled our ideas of the subject for many years, taught that it is only when the sputum of a consumptive dries, thus liberating the germs, that danger begins. He rubbed bits of sponge over the walls, window-sills, etc., of rooms in which consumptives had lived. He found the sponges swarming with tubercle bacilli. By placing these sponges in the peritoneal cavity of animals, he succeeded in giving them tuberculosis. From his utterances the sanitarians have taught, and are mostly still so teaching, that if a consumptive always expectorates into a vessel containing a liquid, and especially if the liquid is also a disinfectant, there is no danger. More recently, Hueppe and his assistants have demonstrated that a person in coughing, sneezing, and even loud speaking, ejects numberless fine particles of saliva. (This is easily shown by having a person stand in a sunbeam admitted to a darkened room and cough.) He was able to further demonstrate that in the case of consumptives this spray of saliva usually contains many active tubercle bacilli. They are projected, in coughing, three to four feet from the person. Here, then, seems to be a new danger to be safe-guarded.

It has been shown that rooms that have been occupied by careless consumptives—those who spit upon the floor, in dry cuspidors not frequently cleaned, or into handkerchiefs, the sputum being allowed to dry there—are often infected. The consumptive germ, alive and ready for mischief, may remain in such rooms a year or more.

That there is real danger in permitting consumptives to attend school without control, is shown by the following case:

A resident of Dublin, a small village near Columbus, reported to me that twelve pupils who had attended high school there had died of consumption within a few years. He said: "Four boys were allowed to go to school there when they were very sick. They had a high fever, and could hardly get up the steps. They went to school there almost until their death. It has been said that they spat on the floor so that the girls covered it over with newspapers to hide it. Strong, healthy girls

have died from this disease, whose parents have never had anything of the kind. This school-house has never been disinfected or properly cleaned or ventilated." A list of the scholars who had died of consumption was given. A letter of inquiry was sent to a physician of Dublin, who verified the above in every particular.—*Ohio Bulletin*.

We commend the above article by Dr. Probst, one of the ablest and most active health officers of our country, to our readers generally and especially to our school authorities. We are clearly of the opinion that no consumptive teacher should be employed and that pupils who have reached the second stage—that of expectoration—should be excluded. We have no law authorizing this, but so far as teachers are concerned the matter is entirely within the control of the school committees who elect them. A case in point has just come before the school committee of which the writer happens to be a member. It was rumored that one of our teachers had consumption. The committee, realizing its responsibility to the children under its care, ordered an investigation to be made in a quiet way and that a certificate as to her true condition be obtained from the family physician. She presented a clean bill of health in this respect, we are glad to say, but the committee was a unit as to the propriety of excluding her from the schools had the examination shown the presence of tuberculosis.

While we have not at present the right to exclude consumptives, it is so manifestly to the interest of the pupil affected that he should cease attendance upon school that in most instances the end could be accomplished by calling the attention of the parents to the facts. We cannot think of anything more injurious to a consumptive child than the wear and tear of study and confinement for hours in the best part of the day in a crowded school-room. Fresh, pure air all the time is now acknowledged to be the most important feature of the treatment of the disease.

We hope the school authorities of our State will take this matter up with a view to its proper control.

### NOTICE TO PHYSICIANS.

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Dr. F. L. Stevens, of the A. and M. College, is now undertaking an investigation of ptomaine and other poisons occurring in milk and its products. The work is being done under a grant for investigation made by the Government through the North Carolina Agricultural Experiment Station. The object of the investigation is to study the source of poisons in milk and to study the toxicogenic organisms.

Dr. Stevens desires the aid of the physicians of the State in two ways: 1. To notify him of any cases of tyrotoxismus or galactotoxismus occurring in North Carolina, and, if possible, to furnish him material from the poisonous food. If it can be arranged, he desires to visit the premises and make local bacteriological tests. 2. To furnish to him, for historical record, all facts obtainable regarding the occurrence of such cases in the past, or give to him the address of any one who would be able to give such facts, in order that some knowledge may be gained as to the importance of this class of poisons.

We trust that our medical readers will actively co-operate with Dr. Stevens in this interesting and important investigation.

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### PHYSICIAN WANTED.

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We are in receipt of a letter from Mr. C. F. Howard, Hampstead, N. C., asking our aid in securing a physician for his neighborhood. The local physician has been compelled to give up practice on account of his health, and the nearest doctor is fifteen miles away. It is evident, therefore, that there is ample room, and, as Hampstead is situated in our prosperous trucking section, it ought to be a good location. Any one interested will please write Mr. Howard.

## REVIEW OF DISEASES FOR SEPTEMBER, 1907.

### EIGHTY-TWO COUNTIES REPORTING.

Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of September the following diseases have been reported from the counties named:

**MEASLES.**—Ashe, several cases; Camden, 2; Chatham, 1; Cleveland, a few; Duplin, 1; Granville, 2; Harnett, 5; Martin, a few; Mecklenburg; Randolph, a few; Robeson, a few; Scotland, 24; Yancey, a few—13 counties.

**WHOOPIING-COUGH.**—Ashe; Camden, 5; Carteret, a few; Chatham, 5; Cherokee, a few; Cleveland, 7; Cumberland; Edgecombe, a few; Granville, 8; Haywood, a few; Martin, a few; Mecklenburg; Northampton, many; Pasquotank, several; Perquimans, 6; Randolph, several; Richmond, many; Scotland; Vance, a few; Wake, 4—20 counties.

**SCARLATINA.**—Alamance, 3; Alexander, 25; Buncombe, 12; Cabarrus, 24; Catawba, 3; Cleveland, a few; Forsyth, 1; Gaston, epidemic; Graham, 3; Guilford, 1; Haywood, 1; Henderson, 7; Iredell, 1; Mecklenburg; Montgomery, 5; Orange, 1; Rowan, 5; Stanly, 2; Surry, 3; Swain, 8; Union, epidemic; Wilkes, 10—22 counties.

**DIPHTHERIA.**—Alamance, 2; Alexander, 5; Ashe, a few; Beaufort, several; Bertie, 2; Bladen, 3; Buncombe, 2; Burke, 5; Carteret, 1; Catawba, 1; Chatham, 2; Cleveland, a few; Craven, 12; Cumberland, 3 or 4; Duplin, 10; Durham; Edgecombe, 4; Forsyth, 4; Gaston, 1; Graham, 1; Guilford, 7; Haywood, 4; Henderson, 1; Johnston, several; McDowell, 3; Mecklenburg; Orange, 6; Pasquotank, several; Pender, 1; Pitt, 5; Robeson, 1; Rowan, 4; Rutherford, 1; Sampson, 9; Stanly, 7; Union, 1; Vance, 2; Wake, 1; Washington, 5; Wayne, 8; Wilkes, 15; Wilson, 5; Yancey, 1—42 counties.

**TYPHOID FEVER.**—Alamance, several; Alexander, 30; Ashe, many; Beaufort; Bladen, 3; Brunswick, 2; Burke, 15; Cabarrus, 6; Caldwell, many; Carteret, a few; Chatham, 3; Cherokee, several; Chowan, 1; Clay, 1; Cleveland, many; Columbus, 5; Cumberland; Davidson, a few; Davie, a few; Duplin, 30; Edgecombe, several; Forsyth; Franklin; Gaston, 2; Gates, many; Graham, 1; Granville, 12; Greene, 12; Guilford, 13; Harnett, 21; Haywood, 8; Henderson, a few; Hertford, 20; Iredell, several; Lincoln, 6; McDowell, 3; Madison; Martin, sev-

eral; Mecklenburg; Mitchell; Montgomery, 12; Nash, 5; New Hanover, 8; Northampton; Onslow, 1; Orange, 1; Pasquotank; Pender, 2; Perquimans, 4; Person, 6; Randolph, 6; Robeson, several; Rowan, 21; Rutherford, 5; Sampson, a few; Scotland, 6; Stanly, several; Surry, 10; Swain, 8; Union, many; Wake, 25; Warren, a few; Washington, 1; Watauga, 3; Wayne; Wilkes, 10; Yadkin, a few; Yancey, 2—68 counties.

MALARIAL FEVER.—Alamance in all parts; Beaufort; Bertie, many; Brunswick; Camden, in all parts; Carteret; Chatham; Chowan, in all parts; Columbus, several; Craven; Currituck; Gates; Harnett; Hertford, in all parts; Hyde; Iredell, in all parts; Martin; Montgomery; Onslow, Perquimans, in all parts; Randolph; Rowan, in nearly all parts; Wake; Washington, in all parts—24 counties.

MALARIAL FEVER, PERNICIOUS.—Beaufort; Hyde, a few; Martin, a few; Wake, 1—4 counties.

MALARIAL FEVER, HEMORRHAGIC.—Craven, 2; Martin, 1; Randolph, 1—3 counties.

MUMPS.—Alleghany.

PNEUMONIA.—Alexander, 1; Ashe, a few; Beaufort, a few; Carteret, 1; Columbus, 1; Davidson, 1; Forsyth, a few; Gaston, 3; Greene, 1; Harnett, 6; Iredell, 1; McDowell, 1; Martin, 2; Randolph, 2; Stanly, 1; Swain, 2; Union, 1; Wake, 3; Washington, 1; Watauga, 1; Yadkin, a few—21 counties.

CEREBRO-SPINAL MENINGITIS.—Camden, 1; Gaston, 1; Graham, 1; Harnett, 1; Hyde, 1; McDowell, 1; Martin, 2; New Hanover, 1—8 counties.

BOWEL DISEASES.—Ashe, a few; Currituck, a few; Surry in all parts.

SMALLPOX.—Alamance, 2; Cabarrus, 5; Camden, 1; Chatham, 8; Guilford, 1; Mitchell; Orange, 1; Warren, 6; Watauga, 10—9 counties.

CHOLERA, IN HOGS.—Clay.

GLANDERS, IN HORSES.—Madison.

STAGGERS, IN HORSES.—Camden, Onslow.

No report received from Anson, Caswell, Halifax, Jackson, Lenoir, Macon, Moore, Pamlico, Polk, Rockingham and Transylvania.

## SUMMARY OF MORTUARY REPORTS FOR SEPTEMBER, 1907.

## TWENTY-FOUR TOWNS.

	White.	Colored.	Total.
Aggregate population .....	140,850	91,050	231,900
Aggregate deaths .....	150	155	305
Representing temporary annual death- rate per 1,000.....	12.8	20.4	15.8
<i>Causes of Death.</i>			
Typhoid fever .....	20	8	28
Malarial fever .....	4	6	10
Diphtheria .....	1	0	1
Whooping-cough .....	0	1	1
Pneumonia .....	3	4	7
Consumption .....	15	21	36
Brain diseases .....	8	4	12
Heart diseases .....	11	16	27
Neurotic diseases .....	4	6	10
Diarrheal diseases .....	16	13	29
All other diseases.....	57	70	127
Accident .....	7	4	11
Suicide .....	4	0	4
Violence .....	0	2	2
	<hr/>	<hr/>	<hr/>
	150	155	305
Deaths under five years.....	40	53	93
Still-born .....	9	21	30



## Mortuary Report for September, 1907.

TOWNS AND REPORTERS.	RACES.	POPULA- TION.		TEM- PORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL	TOTAL	Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		
Charlotte .....	W.	18,000	30,000	13.3	14.8	1						1		1		2	13	2			20	37	6	5	
Dr. F. O. Hawley.	C.	12,000		17.0												1		16				17	37	5	3
Durham .....	W.	12,000	18,000	22.0	22.7	7							6	2	2		2	3			22	34	6		
Dr. T. A. Mann.	C.	6,000		24.0			1						4	1				2	4			12	34	7	1
Edenton .....	W.	3,000	6,000	8.0	10.0								1		1						2	5	1		
Dr. H. M. S. Cason.	C.	3,000		12.0										1		2						3	5		
Elizabeth City .....	W.	6,000	10,000	12.0	13.2										1		1	4			6	11	1		
Dr. C. B. Williams.	C.	4,000		15.0														1	4			5	11	3	2
Fayetteville .....	W.	3,500	6,000	20.6	26.0	1						1	1	1	1						6	13			
Dr. A. S. Rose.	C.	2,500		33.6										1		2		2	2			7	13	2	
Goldsboro .....	W.	6,000	10,000	6.0	9.6											3					3	8	2	1	
Robt. A. Creech, H. O.	C.	4,000		21.4								1					1	1	2			5	8	4	1
Greensboro .....	W.	10,000	16,000	2.4	9.7												1	1			2	13	1	1	
Dr. Edmund Harrison.	C.	6,000		22.0										3		2			5			11	13	1	1
Henderson .....	W.	3,200	6,000	7.5	16.0	1										1					2	8	1		
Dr. A. S. Pendleton.	C.	2,800		25.4											3			2	1			6	8	2	2
High Point .....	W.	9,200	11,200	18.3	22.5	2							1	2	1	2		6			14	21	5		
Dr. C. E. Reitzel.	C.	2,000		42.0										1		1	1		4			7	21	4	
Lexington .....	W.	3,000	3,600	0.0	6.7																0	2			
J. H. Moyer, Mayor.	C.	600		40.0															2			2	2	1	
Marion .....	W.	1,500	1,600	16.0	15.0	1											1				2	2	1		
M. L. Justice, H. O.	C.	100		0.0																		0	2		
New Bern .....	W.	6,500	14,000	9.2	11.1			1									1	2	1		5	13	1		
Dr. Charles Duffy.	C.	7,500		12.8						1				1				1	1	4			8	13	3
Oxford .....	W.	2,000	4,000	24.0	15.0	1									1					2	4	5	1		
Dr. S. D. Booth.	C.	2,000		6.0											1							1			
Raleigh .....	W.	13,000	22,000	17.5	21.3	1		1					2		3		12				19	39	4	2	
T. P. Sale, Clerk B. H.	C.	9,000		26.7			3							1	2		1		11	2			20	5	2
Reidsville .....	W.	4,000	6,000	15.0	12.0			1				1						2	1		5	6			
J. F. Smith, City Clerk.	C.	2,000		6.0														1				1			
Rocky Mount .....	W.	5,000	8,000	18.4	12.0	4											1	2			7	8	6		
Dr. L. C. Covington.	C.	3,000		4.0			1															1			
Salem .....	W.	3,400	3,800	10.6	12.6	1												1	1		3	4			
F. H. Vogler, Mayor.	C.	400		30.0																		1			
Salisbury .....	W.	7,400	11,000	11.3	14.2										1	1	1	3		1	7	13			
Dr. A. T. Trantham.	C.	3,600		20.0			2							1		1	1	1				6			
Southport .....	W.	900	1,400	0.0	0.0																0	0			
Dr. J. A. Doshier.	C.	500		0.0																		0		1	
Tarboro .....	W.	1,500	3,000	16.0	16.0												1	1			2	4	1		
Dr. W. J. Thigpen.	C.	1,500		16.0													1		1			2		1	
Wadesboro .....	W.	1,200	2,000	10.0	12.0													1			1	2			
Dr. J. H. Bennett.	C.	800		15.0																1		1			
Weldon .....	W.	750	1,500	32.0	16.0								1						1		2				
J. T. Gooch, Mayor.	C.	750		0.0																		0			
Wilmington .....	W.	16,000	30,000	9.0	15.2	1		1					2	1			6	1	1		12	38	2		
Dr. Charles T. Harper.	C.	14,000		22.3			1							1	5	1	3	2	1	8	1		22	3	5
Wilson .....	W.	3,800	6,800	12.6	30.0			1						2	1						4	17			
Dr. W. S. Anderson.	C.	3,000		52.0						3					1	1		1	1	5	1		13	7	

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the whole number of deaths occurring within the corporate limits during the above month."

### County Superintendents of Health.

Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. J. H. Bennett.	McDowell .....	Dr. M. L. Justice.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
Beaufort .....	Dr. D. T. Tayloe.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick.....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. E. Headen.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. H. M. S. Cason.	Perquimans.....	Dr. T. P. McMullen.
Clay .....	Dr. P. B. Killian.	Person .....	Dr. W. A. Bradsher.
Cleveland .....	Dr. T. E. McBrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk .....	
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. S. A. Henley.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. N. C. Hunter.
Currituck .....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. John A. Ferrell.	Sampson .....	Dr. Frank H. Holmes.
Durham .....	Dr. N. M. Johnson.	Scotland .....	Dr. K. A. Blue.
Edgecombe .....	Dr. W. J. Thigpen.	Stanly.....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston.....	Dr. L. N. Glenn.	Swain.....	Dr. J. A. Cooper.
Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham .....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance .....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax.....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. F. Abel.	Watauga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. T. L. Ginn.
Hertford .....	Dr. J. H. Mitchell.	Wilkes.....	Dr. John Q. Myers.
Hyde .....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. S. L. Russell.
Jackson.....	Dr. H. F. Burgin.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. L. D. Wharton.		

# BULLETIN

## OF THE

# NORTH CAROLINA BOARD OF HEALTH

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*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

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G. G. THOMAS, M. D., *Pres.*, Wilmington.  
THOMAS E. ANDERSON, M. D., Statesville.  
J. HOWELL WAY, M. D., Waynesville.  
W. O. SPENCER, M. D., Winston-Salem.

EDW. C. REGISTER, M. D., Charlotte.  
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J. A. BURROUGHS, M. D., Asheville.  
J. L. LUDLOW, C. E., Winston-Salem.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

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NOVEMBER, 1907.

No. 8.

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### BASE-BALL.

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In a recent paper we saw a statement that the board of education of a certain county had forbidden the playing of base-ball at any of the public schools of their county. We were greatly surprised to learn that in this day and generation such a ruling could be made. We sincerely believe it to have been an unwise action, and in the interest of the public health—the proper development of the youth of our State—we are moved to enter a protest.

In accepting on behalf of the Trustees of the University, at the Commencement of 1905, the beautiful William Preston Bynum, Jr., Gymnasium, presented to that institution by Judge W. P. Bynum, of Charlotte, as a memorial to his gifted grandson, who died while a student there, we used the following words:

“No gift could have been more opportune. A suitable gymnasium was sorely needed in our athletic life. It is true that there are some who do not appreciate the importance of this phase of college training. Not infrequently one hears some one say that boys are sent to college to study, not to play ball. Those holding this view must be cold-blooded people. In them the fires of life must be burning low, or they are born defective. Like the man who hath no music in his soul, to whom the divine strains of a Mozart or the entrancing song of a Jenny Lind are but as empty sounds, they are incapable of feeling the wild delight that follows upon a home-run in the ninth with a short score and bases full, or the delirious joy of the touch-down which brings victory. I am sorry for them. And in my humble

judgment they are all wrong, too, from the practical point of view. As a father, as a physician, and especially as one who has for years paid more than usual attention to the problems of health, I do not hesitate to express the opinion that boys should go to college to study and to play ball, if they are to reap the full benefits of the course.

"The effect of proper physical training, according to one of the highest authorities on hygiene, is to 'increase the capacity of the lungs and the breathing power, to strengthen the heart and the circulation, to invigorate the brain and the nerve-centers, to improve digestion and nutrition, to make the muscles more powerful, more responsive to the will and their capacity for endurance greater, and to lessen the amount of adipose tissue.' The brain through which swiftly courses the energizing current of rich, pure, healthy blood can do more and better work than another fed by a sluggish stream clogged with the waste materials that only exercise can fully throw off. And the benefits of this training are, not physical only, but moral as well. It is the school in which self-discipline is most effectively taught, in which courage, self-reliance, force of will, promptness of decision and action, and the ability to give and take without anger or malice are all fostered. It makes for temperance likewise. We have the word of the great Apostle to the Gentiles for it, when he says: 'Every man that striveth for the mastery is temperate in all things.'"

We have seen no reason to change our mind since; on the contrary, we are, if anything, more firmly convinced of the correctness of our position.

Active exercise is a *sine qua non* to the healthy growth and development of children. Every one admits that, and, instead of throwing obstacles in their way, they should be encouraged in every proper manner. Many people think that work of one kind or another would best answer the purpose. While we are thoroughly in accord with the idea that children should be trained to work, we are equally as strongly convinced that a generous amount of time should be given to *play*. In the exercise associated with the playing of games there is the element of recreation which is of much more importance than some might think. It is well known that appetizing food is more easily digested than such as does not appeal to the palate; and so it is with exercise—that of the game has a flavor that chopping cotton and hoeing tobacco does not possess, and is proportionately more beneficial. And of all games for boys there is not one equal to base-ball. As most of our readers are aware, it is a game requiring the active exercise of all the muscles of the body in batting, throwing and running; that it is a game requiring much skill, accuracy of eye, promptness of decision, quickness of action, and that it is full of interest and diversion to the players. Even the spectators are helped, for their pulses are quickened by the excitement and their lungs inflated by the yells of applause or criticism. We challenge

any one to claim that a lot of boys fresh from a game of ball at recess, with the quickened circulation of blood filled with oxygen extending to their brains as well as to all parts of the body, would not be able to do better mental work than if they came in from sitting or standing around or even from "hiding the switch" or "mumble the peg."

But there is another aspect to this question. As Mr. Sleary said to Mr. Gradgrind, "The people muth be amuthed, thir," and children are entitled to their share. A life that has no "fun" in it is a dreary affair. The life of the average country boy, living at a distance from his nearest neighbor, must necessarily be a bare and sunless one to a greater or less extent. But at school they get together, and the opportunity for innocent amusement and recreation afforded by association is supplied them there, and, with exceptions, there only. In an article on school hygiene, in the Bulletin for October, 1902, we wrote:

"To the growing child active exercise in the open air is all-important. The draught should be put on and the vital fires stirred and made to burn brightly. Children ought to run and shout, thereby developing both heart and lungs. Out-door games should be encouraged. Mere exercise—work—is good, but to obtain the best results the recreation features must be added, the exercise must be interesting and enjoyable. A good play-ground should, therefore, always be provided, and it ought to contain a ball field. We venture to say that the expenditure by the committee of a few dollars for the amusement of the children would increase both enrollment and attendance. Many a parent would send his child to school, if he were anxious to go, when otherwise he would not."

We do not doubt that the members of the Board of Education of ——— County are worthy, conscientious men, but we sincerely believe they are mistaken in this matter, and we appeal to them to withdraw the restriction and let their boys play the national game, as all true American boys ought to do.

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### AN OLD-TIME DOCTOR.

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Dr. Heavenridge was an "old-time doctor," as he said of himself. "I don't know," said he, "anything much about microbes, and this thing of having mild diphtheria I believe is all nonsense. It's either diphtheria or it's not diphtheria, and to have diphtheria there must be a membrane. These cases around here which are pronounced diphtheria by the laboratory at Indianapolis have no membranes." And thus good old Dr. Heavenridge continued to talk, and most of the people who employed him believed with him, and so the efforts of the health officer to keep down a threatened outbreak of virulent diphtheria were thwarted.



The doctor had the courage of his convictions, and so he did not hesitate after visiting children sick with what the laboratory pronounced diphtheria, to take his little grandchild in his arms. This was indeed too bad, for down went the little one with diphtheria, and into the grave. Even this experience did not prove sufficient to convince the "old-time doctor" that we may have diphtheria without having a membrane, for he continued to act as before; but finally he came to the true knowledge, when a second grandchild died on account of his ignorance. Surely "ignorance is the only sin."—*Indiana Bulletin.*

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### A CURIOUS FACT ABOUT HEATING.

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This explains why we are sometimes cold, and even chilly, when the thermometer stands at 75 or 80 degrees. It has been found that one is perfectly comfortable in a temperature of 60 degrees if the relative humidity is 60 per cent.

Some one asks what is meant by 60 per cent. humidity. It is explained in this way: At 60 degrees Fahrenheit a cubic foot of air will hold nearly six grains of water in the form of vapor. Sixty per cent. humidity means that a cubic foot of air contains six-tenths as much moisture as it is possible for it to hold. It is not uncommon in hot rooms heated by direct radiation to find the humidity dropping as low as 20 per cent., which of course is exceedingly dry.

People will often be chilly in a room where the thermometer shows over 70 degrees. Place a boiling tea-kettle in the same room for fifteen minutes, and, without raising the temperature, it will be found to be entirely comfortable. This is because the air has become saturated with moisture, and hence does not abstract the moisture from the skin and so make the uncomfortable chilly sensation.

It will be seen that as a mere means of saving fuel, without any regard to health, it is economy to keep the air of the house moist. In a general way this is understood, for every furnace is equipped with a little reservoir for holding water, the purpose being to supply moisture to the air by evaporation. Recently more effective devices have been invented and are being used now in nearly all good houses. It would not be a bad plan for people who are interested in this matter to hang a hygrometer beside their thermometer. This is a little instrument which registers the amount of humidity or moisture in the air, and is likely to prove of very great value.—*Healthy Home.*



## REVIEW OF DISEASES FOR OCTOBER, 1907.

## EIGHTY-TWO COUNTIES REPORTING.

Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of October the following diseases have been reported from the counties named:

MEASLES.—Ashe, several cases; Chatham, 1; Clay, 2; Gates, 2; Lincoln, 10; Martin, a few; Mecklenburg; Polk, many; Rutherford, 10; Sampson, a few; Scotland; Union, several; Yancey, several—13 counties.

WHOOPING-COUGH.—Bladen, a few; Chatham, 5; Cherokee, several; Clay, 2; Currituck, a few; Gaston, 1; Harnett, 3; McDowell, 3; Martin, a few; Mecklenburg; Northampton, many; Rutherford, 5; Scotland; Union, several; Vance, a few; Washington, many; Wayne—17 counties.

SCARLATINA.—Alexander, 10; Anson, a few; Ashe, a few; Buncombe, 10; Cabarrus, 26; Caldwell, 6; Catawba, 2; Davie, 1; Durham, 1; Forsyth, 2; Gaston, many; Graham, 1; Guilford, 3; Harnett, 1; Haywood, several; Henderson, 6; Lincoln, 1; Mecklenburg; Orange, 2; Perquimans, 2; Person, 1; Polk, 1; Surry, 4; Swain, 6; Transylvania, 2; Union, many; Yancey, 1—27 counties.

DIPHTHERIA.—Alexander, 2; Ashe, several; Beaufort, 7; Bladen, 6; Buncombe, 2; Caldwell, 7; Carteret, 1; Catawba, 1; Chatham, 5; Chowan, 1; Cleveland, 1; Craven, 10; Cumberland, a few; Duplin, 10; Durham, 10 to 20; Edgecombe, 7; Forsyth, a few; Gaston, 1; Granville, 1; Greene, 1; Guilford, 5; Harnett, 3; Henderson, 2; Johnston; Martin, 7; Mecklenburg; Nash, a few; New Hanover, 3; Onslow; Orange, 1; Pender, 1; Person, 1; Pitt, 4; Polk, 2; Richmond, 3; Robeson, 2; Rowan, 2; Rutherford, 5; Sampson, 13; Surry, 2; Union, 1; Wake, 1; Wayne, a few; Wilkes, 2; Wilson, 7; Yancey, a few—46 counties.

TYPHOID FEVER.—Alamance, several; Alexander, 4; Ashe, many; Beaufort, 4; Bertie, 1; Bladen, 2; Brunswick, 2; Cabarrus, 3; Caldwell, many; Camden; Carteret, 2; Catawba, 5; Chatham, 4; Cherokee, a few; Clay, 4; Cleveland, 3; Columbus, 3; Cumberland; Davidson, 2; Davie, a few; Duplin, 12; Durham, a few; Edgecombe, 1; Forsyth, a few; Gaston, 1; Gates, 9; Graham, 8; Granville, 12; Greene,

10; Guilford, 5; Harnett, 16; Henderson, 3; Hertford, 4; Iredell, 1; Johnston, 1; Lincoln, 6; Madison, a few; Martin, several; Mecklenburg; Montgomery, 10; New Hanover, 4; Northampton, a few; Onslow, 2; Orange, 1; Person, 6; Polk, 8; Randolph, 20; Richmond, 1; Robeson, a few; Rowan, 21; Rutherford, 6; Sampson, a few; Scotland, 4; Surry, 4; Swain, 2; Union, many; Vance, a few; Wake, 14; Warren, a few; Washington, 4; Watauga; Wayne; Wilkes, 4; Yadkin, 1; Yancey, a few—65 counties.

**MALARIAL FEVER.**—Alamance, in all parts; Bertie; Camden, in all parts; Caswell, in all parts; Chatham; Columbus; Craven; Currituck; Durham, a few; Harnett, in all parts; Hyde, in all parts; Martin; Onslow; Perquimans, in all parts; Rowan; Union, many; Washington—17 counties.

**MALARIAL FEVER, PERNICIOUS.**—Chatham, 1; Hyde, several; Martin, 2; Washington, 1—4 counties.

**MALARIAL FEVER, HEMORRHAGIC.**—Craven, 1; Hyde, 1; Martin, 3; Onslow, 1—4 counties.

**INFLUENZA.**—Henderson; Hertford, in all parts; New Hanover, in all parts; Pender; Surry, in all parts—5 counties.

**PNEUMONIA.**—Alamance, 2; Alexander, 2; Ashe, a few; Beaufort, 8; Cabarrus, 2; Camden, 2; Catawba, 2; Chatham, 1; Cherokee, a few; Chowan, 2; Clay, 1; Columbus, 1; Craven, 4; Davidson, 2; Davie, a few; Duplin, 2; Durham, 3 or 4; Gaston, 1; Harnett, 12; Henderson, 2; Hertford, 1; McDowell, 1; Martin, 3; Mecklenburg; Montgomery, 4; Nash, 5; New Hanover, 2; Perquimans, 2; Person, 4; Richmond, 1; Rowan, 3; Rutherford, 4; Swain, 5; Transylvania, a few; Union, a few; Wake, 2; Watauga, 2; Yancey, a few—38 counties.

**MUMPS.**—Ashe, many; Madison.

**MENINGITIS, CEREBRO-SPINAL.**—Camden, 2; Harnett, 1; Hyde, 1; Martin, 2; Montgomery, 1—5 counties.

**BOWEL DISEASES.**—Currituck, a few; Onslow, a few.

**SMALLPOX.**—Buncombe, 4; Catawba, 1; Chatham, 5; Chowan, 2; Davie, 2; New Hanover, 1; Orange, 4; Sampson, 1; Warren, 2; Watauga—10 counties.

**CHOLERA, IN FOWLS.**—Davie.

**CHOLERA, IN HOGS.**—Harnett; Washington.

**HYDROPHOBIA, IN DOGS.**—Caswell.

No diseases reported from Pasquotank. No reports received from Burke, Franklin, Halifax, Jackson, Lenoir, Macon, Mitchell, Moore, Rockingham and Stanly.

## SUMMARY OF MORTUARY REPORTS FOR OCTOBER, 1907.

## TWENTY-TWO TOWNS.

	White.	Colored.	Total.
Aggregate population .....	134,350	87,150	221,500
Aggregate deaths .....	142	164	306
Representing temporary annual death- rate per 1,000 .....	12.7	22.6	16.6
<i>Causes of Death.</i>			
Typhoid fever .....	16	9	25
Malarial fever .....	5	7	12
Diphtheria .....	0	1	1
Whooping-cough .....	1	2	3
Pneumonia .....	4	5	9
Consumption .....	14	15	29
Brain diseases .....	8	10	18
Heart diseases .....	20	11	31
Neurotic diseases .....	1	4	5
Diarrheal diseases .....	12	23	35
All other diseases .....	56	70	126
Accident .....	3	7	10
Suicide .....	1	0	1
Violence .....	1	0	1
	142	164	306
Deaths under five years .....	31	49	80
Still-born .....	8	20	28

**Mortuary Report for October, 1907.**

TOWNS AND REPORTERS.	RACES.	POPULA- TION.		TEM- PORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhical Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL	DEATHS.	Deaths under five years. Still-born.	
		By Races.	Total.	By Races.	Total.																	By Races.	Total.		
Charlotte	W.	18,000	30,000	10.7	12.0	1						1	1	1				11	1		16	30	4	3	
Dr. F. O. Hawley.	C.	12,000		14.0			2						1		1	1			10				14	40	5
Durham	W.	12,000	18,000	13.0	25.0	5				1			6	1	1		1	3			18	38	3	2	
Dr. T. A. Mann.	C.	6,000		40.0			4							3	1	1		3	9			20	38	7	2
Edenton	W.	2,500	5,000	9.6	12.0										1		1					2	5	1	
Dr. H. M. S. Cason.	C.	2,500		14.4										1		1	1	1					3		
Elizabeth City	W.	6,000	10,000	14.0	16.8									1	2		1	3				7	14	2	
Dr. C. B. Williams.	C.	4,000		21.0			1							1	1	1		1	3				7	7	4
Fayetteville	W.	3,500	6,000	30.8	26.0			1					1		1		2	4				9	13	5	
Dr. A. S. Rose.	C.	2,500		19.2										1	1			2					4	13	3
Goldsboro	W.	6,000	10,000	14.0	19.2	1									1	1	2			1	7	16	3		
Robt. A. Creech, H. O.	C.	4,000		27.0			1								2	1	1		4			1	9	16	3
Greensboro	W.	10,000	16,000	9.6	15.7	2								1	1	1	3					8	21	1	
Dr. Edmund Harrison.	C.	6,000		26.0						1				1	1	1		1	6	2				13	21
High Point	W.	9,000	11,000	13.3	14.2	3										2		4	1			10	13		2
Dr. C. E. Reitzel.	C.	2,000		18.0															3					3	
Marion	W.	1,400	1,500	8.6	8.0							1										1	1		
M. L. Justice, H. O.	C.	100		0.0																				0	
New Bern	W.	7,000	14,500	6.8	13.2										1	2		1				4	16		
Dr. Charles Duffy.	C.	7,500		19.2				1								3			2	6				12	
Oxford	W.	2,000	4,000	0.0	3.0	1																0	1		
Dr. S. D. Booth.	C.	2,000		6.0																				1	
Raleigh	W.	13,000	22,000	17.5	21.8	2	3						1	2	1	2	1	7				19	40	4	1
T. P. Sale, Clerk B. H.	C.	9,000		28.0			1							1			2	2	14	1				21	40
Reidsville	W.	4,000	6,000	12.0	12.0								1		2	1						4	6		
J. F. Smith, City Clerk.	C.	2,000		12.0															2					2	
Rocky Mount	W.	5,000	8,000	4.8	7.5	1								1								2	5	1	
Dr. L. C. Covington.	C.	3,000		12.0			1							1				1						3	5
Salem	W.	3,400	3,800	3.5	3.2													1				1	1		
F. H. Vogler, Mayor.	C.	400		0.0																				0	
Salisbury	W.	7,400	11,000	16.1	17.4	1								1	2			6				10	16	2	
Dr. H. T. Trantham.	C.	3,600		20.0											1	3	2							6	
Southport	W.	900	1,400	13.3	34.3												1					1	4		
Dr. J. A. Doshier.	C.	500		72.0													1	1	1					3	
Tarboro	W.	1,500	3,000	16.0	32.0												2					2	8	1	
Dr. W. J. Thigpen.	C.	1,500		48.0											1			3	1	1				0	8
Wadesboro	W.	1,200	2,000	0.0	0.0																	0	0		
Dr. J. H. Bennett.	C.	800		0.0																				0	
Weldon	W.	750	1,500	16.0	16.0													1				1	2		
J. T. Gooch, Mayor.	C.	750		16.0															1					1	
Wilmington	W.	16,000	30,000	11.2	17.2		1						2		2	1	1	7	1			15	43	3	
Dr. Charles T. Harper.	C.	14,000		24.0			2							1	4	1	2	2	5	8	3			28	
Wilson	W.	3,800	6,800	11.0	22.9			1					1		1		3					6	13	2	
Dr. W. S. Anderson.	C.	3,000		28.0				2	1									1	3					7	

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

### County Superintendents of Health.

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Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. E. S. Ashe.	McDowell .....	Dr. M. L. Justice.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
Beaufort .....	Dr. D. T. Tayloe.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan.
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. E. Headen.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. H. M. S. Cason.	Perquimans .....	Dr. T. P. McMullen.
Clay .....	Dr. P. B. Killian.	Person .....	Dr. W. A. Bradsher.
Cleveland .....	Dr. T. E. McBrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk .....	Dr. Earle Grady.
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. S. A. Henley.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. N. C. Hunter.
Currituck.....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam Ellington.
Davidson .....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. John A. Ferrell.	Sampson .....	Dr. Frank H. Holmes.
Durham .....	Dr. N. M. Johnson.	Scotland .....	Dr. K. A. Blue.
Edgecombe .....	Dr. W. J. Thigpen.	Stanly.....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston.....	Dr. L. N. Glenn.	Swain.....	Dr. J. A. Cooper.
Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham .....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
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Johnston .....	Dr. L. D. Wharton.		





Dr I H Manning

Dr R H Whitehead

# BULLETIN

## OF THE

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*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

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### THE PREVALENCE OF DEFECTS OF HEARING AND SIGHT AMONG SCHOOL CHILDREN.

By HENRY GLOVER LANGWORTHY, M. D., Dubuque, Iowa.

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The systematic examination of school children for defects of hearing and sight is fast becoming recognized as a necessity in most of our large cities throughout the country. While this may not always be possible in smaller communities, the instruction of teachers and mothers along these lines with practical hints as to the general symptoms and ulterior effects of eye and ear trouble and the presence of adenoids in the throat is certainly imperative. It has not been uncommon in the past for children to be censured for such faults as inattention or restlessness and placed in the class of stupid children, when the fault was one of a defect of hearing or sight.

The term "Adenoids," with a fair understanding of the condition, should be as familiar a word as that of physiology, geography or arithmetic. School superintendents have been quick to recognize the importance of instructing their teachers in hygiene in general, but that deals inadequately with the special fields. Such a calamity as the deprivation of even a moderate portion of hearing or error of refraction uncorrected is productive of many and varied disadvantages. It not only occasions general muscular fatigue but also, according to the severity of the individual case, almost excludes the mind at its most impressionable age from external classification of

ideas or associations. That such isolation gives rise to degrees of despondency and moroseness is natural. It is therefore not to be wondered at that pleasurable happenings impart little sense of either admiration or surprise.

One has but to examine the old portraits of scores of the young princes and princesses of Europe in order to observe the vacant faces, open mouths, thick lips, and in fact all the expressions of actual idiocy to be impressed with the result of large growths in the throat, our so-called adenoid vegetations of childhood. These growths at the back of the nose also cause deafness, by preventing the proper ventilation of the middle ear through a tiny tube leading into the throat. They are also an important factor in the general undevelopment and in many deformities of the chest.

Not all cases of deafness are of course due to the presence of adenoids, as many follow in the train of certain general conditions acting on the nerve of hearing or more directly by inflammation, such as an abscess of the middle ear itself.

Adenoids are essentially a disease of childhood. Almost all children have a certain amount of this lymphoid tissue, which in reality is merely an extra tonsil situated high up in the vault and along the posterior wall of the throat. It is only when they are enlarged that so much trouble is caused. At puberty this extra tonsil tends to shrink in size, but this is long after the damage has been wrought. Frequent ear-aches in a child usually mean that this condition exists in the child's throat. The resulting disturbance being caused purely in a mechanical way the treatment of immediate removal is both safe and satisfactory.

Snoring or loud, stertorous breathing is another accompaniment of nasal obstruction and in bad cases the child may spring up in alarm during a sound sleep from this impediment alone. The discovery of the growths by William Meyer in 1860, with a due appreciation of their harmful effects on hearing, mark an epoch in the history of medicine and a new era of hope dawned for the little mouth-breather. The removal of these growths in children is the most useful remedy to be employed in the catarrhal deafness of early life.

Hardness of hearing may be spoken of as slight, moderate or marked. Deaf-mutism will of course not be considered. If a child is suspected of having some trouble with the ear inquiries should be made as to a possible cause, such as frequent ear-aches, running ears, etc. A following simple and accurate test may then be made by the teacher after school hours. The child is requested to stand one side to the wall. The ear on that side is stopped up by the child plugging the opening with his finger, which insures hearing with the one ear only. Whispered voice is the most suitable test, much better than loud speaking. Words or better, numbers, such as sixty-six, seventy-eight, ninety-nine, etc., are then used. The teacher should

begin the test some twenty or twenty-five feet distant, gradually approaching until the number is heard and repeated by the child. One should normally hear a whispered voice from twenty to twenty-five feet. If a slight degree of deafness is present, the numbers may only be heard from four to ten feet. Both ears can be tested in the same way. If the deafness is more marked a whisper is not heard at all and loud spoken voice must then be used. This test is all that is necessary and should be required of every teacher. The child's future good health is of more importance than mere knowledge of mathematics or history.

A word also about a running ear, either of short or long duration. A discharging ear is always a source of danger to life. The longer it runs, to a certain degree the more dangerous it becomes. There is no more erroneous and misleading statement than the saying: "It is unwise to stop a running ear." As Wilde, one of our very early specialists in this field, truly said years ago: "Where a discharge from the ear exists we can never tell how, when or where it will end, or to what it may lead." The brain and important blood vessels are separated in places by a layer of bone as thin as tissue paper and the mother who allows the child's ear to constantly discharge without seeking medical advice exposes that child to the danger of the extension of the disease to these structures. Hardly any mother would allow her little infant to play long on the railroad track; that the danger is a hidden one in no wise mitigates that peril.

So much, then, for the defects of hearing. In a similar way few realize the intense strain and likewise actual muscular fatigue occasioned by a constant effort on the part of the child to see distinctly. If a child, through some error in refraction, such as near-sightedness, far-sightedness or combinations of both, can see only one-fourth as well as a normal child, in order to do the same work he must, every second of the day, constantly strain the tiny muscle of accommodation in his eye in order to keep the printed page or blackboard in focus. To do this under such conditions requires all that extra work. Imagine the wear and tear on the nervous system after a few weeks or months! Naturally the typical symptoms of eye-strain, namely, headache after or during study, pains about the eyes, inability to hold the attention to any particular task and a general restlessness or nervousness soon follow. It is hardly an exaggeration to say that the relationship between the eye trouble in children, as well as adenoids with associated deafness, to their standing in scholarship is a very close one. The majority of poor students probably belong in some one of the above classes. This statement is made with all due allowance for the individual variation of intelligence and industry. Unfortunately the general public is not educated to the fact that a considerable number of poor scholars may suffer from defective eyes, though often having good distant vision. This is a matter of everyday occurrence to the specialist. Children frequently have excellent

vision but only through a constant effort on their part to bring a certain point normally out of range into view. Even adults often suffer from the most marked symptoms without realizing that their eyes are at fault.

To-day we are hearing much about the advances in preventative medicine and surgery. The old adage, "An ounce of prevention is worth a pound of cure," is nowhere more applicable than here. Prevention is certainly possible a thousand times, when a cure is possible but once. Undoubtedly most children are brought into the world with fairly good eyesight. Such conditions as near-sightedness, far-sightedness and various inflammatory conditions are usually not due to possible inheritance, but are the result of neglect, excessive study under improper conditions and lack of proper assimilation of food.

Another of the pernicious statements handed down from an antediluvian ancestry is the advice sometimes heard with regard to cross-eyes in the young: "Let the child's eyes alone and he will out-grow it." This statement is on a par and about as correct a one as those found on the bottle of some much-heralded cure-all of quackery for the extortion of money by advertising charlatans. If the child's eye begins to turn in, the teacher or parent should be the first to understand that a competent medical man had better be consulted. If allowed to go on it is a hundred to one that the trouble will progress and the sight in the squinting eye gradually go down and can never be regained. To allow a child to become partially blind in one eye, even through ignorance, is almost criminal. Nature needs assistance in these cases. It is not the custom for her to overcome such a defect alone. If the advice of the clerk at the jewelry store or itinerant quack, who knew of a case which got along all right is followed, the experiment usually proves a costly one. Parents, strange to say, are prone to overlook deformities, either mental or physical, in their children.

Let us follow for a moment one of those rather rare cases of congenital myopia, taking for example Francesque Sarcy, the well known French critic, who writes of his personal experience: "I was born near-sighted, dreadfully near-sighted. One day, prompted by a spirit of mischief, I got hold of the big silver spectacles which my father wore and clapped them on. Fifty years have passed since then, but the sensation I experienced is keen and thrilling to this day. I gave a cry of astonishment and joy. Up to that moment I had seen the leafy dome above me only as a thick, green cloth, through which no ray of sunlight ever fell; now, oh wonder and delight! I saw that in this dome were many little brilliant chinks; that it was made of myriads of separate and distinct leaves, through whose interstices the sunshine sifted, imparting to their greenery a thousand forms of light and shade. But what amazed me most, what enchanted me so that I cannot speak of it to this day without emotion, was that I saw suddenly, between the leaves, and far, far away



beyond them, little glimpses of the bright blue sky. I clapped my hands in ecstasy, and was mad with astonishment and delight." This illustrates but one of the many remarkable ways in which a child with defective sight may be benefited by a proper recognition of this fact.

In Iowa no provision has as yet been made by the Legislature for the systematic examination of school children. Local boards, however, would have authority for such inspection if they so desired. The boards of schools have in many other States been among the first to give such a measure their hearty approval and support. The employment of physicians for the work is impossible, involving too great an expense. The best plan for meeting this want because of its extreme simplicity and practicability is the one suggested by Dr. Frank Allport of Chicago in 1895. Dr. Allport has been constantly at work on such a movement ever since. He proposes that each fall, as for instance, the month of September, such examinations as are necessary be systematically performed by school teachers and that any scholar found to be defective should be furnished with a "card of warning" which is handed to the parent. This card simply notifies the parent that his child is believed to have some eye or ear disease which impedes his progress in school and is urged to consult his family physician or some eye or ear surgeon.

In order that the presence of disease may be detected by the teacher Dr. Allport has further arranged a series of nine questions; absolutely plain and simple in their character, for which the teacher is to obtain answers. The questions are so primitive in their character that any teacher can easily furnish answers to them, and yet so comprehensive that when answered they will disclose ninety per cent. of serious eye, ear, nose or throat diseases.

The facts to be ascertained are as follows:

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters in number XX (20) line of the Snellen's Test Types with either eye?
3. Do the eyes and head habitually grow weary and painful after study?
4. Does the pupil appear to be "cross-eyed?"
5. Does the pupil complain of ear-ache in either ear?
6. Does matter (pus) or foul odor proceed from either ear?
7. Does the pupil fail to hear an ordinary voice at twenty feet in a quiet room? Each ear should be tested by having the pupil hold his hand over first one ear and then the other. The pupil should close his eyes during the test.
8. Is the pupil frequently subject to "colds in the head" and discharges from the nose or throat?
9. Is the patient an habitual "mouth breather?"

If an affirmative answer is found to any of these questions the pupil may then be given a printed card of warning handed to the parent.

The number XX (20) line is the line thus marked on the school chart to be furnished the teacher. The vision is tested by having the child read the letters on this line twenty feet distant. On the chart below the testing letters will be found a detachable portion with the above questions and containing the teacher's instructions as to the manner of making these simple tests.

Every school should have its charts, as they consist of the ordinary large strips of white cardboard with black printed letters and cost but little. They may be obtained of Mr. Alner Coe, 74 State Street, Chicago, Ill.—*Iowa Bulletin*.

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### DO DRAFTS DO ANY HARM?

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Most people have a dread of drafts. Dr. Norman Bridge, of California, calls the idea a harmful delusion, and says that fear of drafts leads to the sickness and death of many people. He presents his case as follows:

"Colds, in the popular mind, are acquired chiefly through the thing called a draft, which means a perceptible movement of air about a person's body, especially his head, and when he is in-doors. The term is not applied to the gentle breeze out-of-doors, although it is the same sort of a thing. As a result of this idea people are constantly disturbed, constantly fearful that they will sit in a draft or stand in a draft, and if they feel a slight movement of air they are mostly anxious to stop it by closing windows and doors.

"You may create surprise, even bordering on terror, if you say that you enjoy drafts when some good soul has rushed to close a window to save your life—asking if you are not 'afraid of that draft?' If you ask your solicitous friend what harm there can be in a draft, he will tell you that it will give you a cold, and that then you may get consumption.

"If you remind him that he walks and rides in a wind out-of-doors without any such fear, he will say that that is a wind, not a draft; and that a wind is not half as dangerous as a draft. If you ask him what the difference is he is nonplussed, and you thereby discover that you have asked him a brand-new question, one that he never thought of before, and his answer is likely to appear to himself, on second thought, to be untenable, if not absurd. He can give you no explanation of the difference, for essentially there is none."



## IS THE DOCTOR RIGHT?

Now in one sense the doctor is right, and in another he is wholly wrong. There is no question at all but that exposure leads to colds, stiff necks, lame backs and other unpleasant conditions as the result of "sitting in a draft."

The difference between outdoors with wind blowing, and indoors with the current of air striking an exposed portion of the body, like the back of the neck, is really very great and very practical. If the cold air were applied uniformly to the whole surface of the body there would be no congestion and no lameness, but applied to this small portion, the equilibrium is upset, and the muscle in question, which may have been shortly before perspiring freely, is chilled and becomes lame in consequence.

Of course it is possible to keep in such physical condition that the equilibrium will be maintained even though the draft be felt. Such people are immune from the consequence of even strong drafts, and all people ought to be so. Many people are insufficiently clothed at the point where the cold wind touches the body, and of course the result is one of those symptoms of the disorder which we commonly call a cold.

The doctor is right, however, in this respect, that people do not easily take serious colds from ordinary drafts or even from wet feet and exposure unless there has been a previous history of fatigue, digestive derangement, over-work, and lack of proper sleep and rest. Colds comes less often in the depth of winter than in the warming weather of spring. Consequently it is foolish for people who find a cold coming on to knit their brows and begin to meditate on what exposure caused it, for they ought to react against any small exposure without showing any constitutional disturbance.

A serious draft should be guarded against, but it should not be guarded against so completely as to shut out the good air. It is this fear of a draft which compels numberless people to breathe bad air constantly, which lowers their vitality, and makes it easy for micro-organisms to attack them, and for them to get all sorts of disease that constant fresh air might enable them to escape. They are more susceptible to cold catching than the people who either ignore drafts altogether or clothe themselves so they can bear them.

## ABANDON CLOSE BEDROOMS.

The only way to live in health is to be sure we do not breathe over again the air we have already contaminated by breathing. This applies to well people as well as to consumptives who are cured by living where the air circulates freely. Best of all, when one retires for the night and is warmly covered from foot to chin, it is well to let the windows be opened and let the wind blow freely through the room. This is the kind of draft which makes athletes

instead of invalids. A cold in itself, if the body is vigorous, is a trifling matter. It is the complications of a cold which excite alarm.

The common cold is not followed by serious disease, nor is it attended with fever. True influenza or grip, on the other hand, is usually a febrile (with fever) disease and is occasionally followed by phthisis. A cold often follows a fit of indigestion, a paroxysm of migraine (sick headache), a day of overwork or a night without sleep; it comes to those who live out-of-doors perhaps one-fifth as often as to the overhoused people. Soldiers in camp, sleeping in tents or under trees or wagons and wrapped in their blankets, very rarely have colds. But when they go home on furlough and sleep in close bedrooms they show a marked susceptibility to these troubles.—*Healthy Home.*

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### DO YOU BREATHE THROUGH THE MOUTH?

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Some time ago *The Healthy Home* printed an article in which it was stated that the writer had walked along a busy street counting those who breathed through the nose and did not have the mouth open. He found very few, probably less than one in ten, who had not formed the habit of breathing through the mouth.

One reason why people do not use the nose more steadily is because as children they formed a bad habit. The Indian believes absolutely in nasal breathing.

"Many a time," says George Wharton James, "I have seen the Indian mother, as soon as her child was born, watch it to see if it breathed properly. If not, she would at once pinch the child's lips together and keep them pinched until the breath was taken in and exhaled easily and naturally through the nostrils. If this did not answer, I have watched her as she took a strip of buckskin and tied it as a bandage below the chin and over the crown of the head, forcing the jaws together, and then with another bandage of buckskin she covered the lips of the little one. Thus the habit of nasal breathing was formed immediately, the child saw the light, and it knew no other method.

The wise mother should not pursue so extreme a measure without adopting at least one precaution, namely, she should see that the nasal passage of her child is clear and unobstructed, so that the air may reach the lungs very freely. Many a child who breathes through the mouth finds difficulty in breathing at all, the air passages are so obstructed by adenoid growths.

The mouth breather habitually submits himself to unnecessary risks of disease. In breathing through the nose the disease germs which abound in our city streets and are sent floating through the air by every passing wind, are caught by the gluey mucus on the capillaries

of the mucous membranes. The wavy air passages of the nose lead one to assume that they are so constructed expressly for this purpose, as the germs, if they escape being caught at one angle, are pretty sure to be trapped in turning another. When this mucus is expelled in the act of "blowing the nose," the germs go with it, and disease is prevented. But when these germs are taken in through the mouth, they go directly into the throat, the bronchial tubes, and the lungs, and if they are lively and strong, they lodge there and take root and propagate with such fearful rapidity that in a very short time a new patient with tuberculosis, diphtheria, typhoid, or some other disease, is created.—*Healthy Home*.

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### SWEEPING AND DUSTING.

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When you sweep a room raise as little dust as possible, because this dust when breathed irritates the nose and throat and may set up catarrh. Some of the dust breathed in dusty air reaches the lungs, making parts of them black, and hard, and useless.

If the dust in the air you breathe contains the germs of consumption—tubercle bacilli—which have come from consumptives spitting on the floors, you run the risk of getting consumption yourself. If consumptives use proper spit cups and are careful in coughing or sneezing to hold a handkerchief or the hand over the nose and mouth so as not to scatter spittle about in the air, the risk of getting the disease by living in the same rooms is mostly removed.

To prevent making a great dust in sweeping, use moist sawdust on bare floors. When the room is carpeted, moisten a newspaper and tear it into small scraps and scatter these upon the carpet where you begin sweeping. As you sweep, brush the papers along by the broom and they will catch most of the dust and hold it fast, just as the sawdust does on bare floors. Do not have either the paper or the sawdust dripping wet, only moist.

In dusting a room, do not use a feather duster, because this does not remove the dust from the room, but only brushes it into the air so that you breathe it in; or it settles down and then you have to do the work over again.

Use soft, dry cloths to dust with and shake them frequently out of the window, or use slightly moistened cloths and rinse them out in water when you have finished. In this way you get the dust out of the room.

In cleaning rooms you should remember that dust settles upon the floors as well as on the furniture, and is stirred into the air we breathe by walking over them. You can easily remove all this dust in rooms which have bare floors, in houses, stores, shops, school-

rooms, etc., after the dust has settled, by passing over the floor a mop which has been wrung out so as to be only moist, not dripping wet. —*The Committee on the Prevention of Tuberculosis, of the Charity Organization Society, of New York.*

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## REVIEW OF DISEASES FOR NOVEMBER, 1907.

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### EIGHTY-FIVE COUNTIES REPORTING.

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Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of November the following diseases have been reported from the counties named:

MEASLES.—Ashe, a few cases; Cherokee, a few; Cumberland; Duplin, 3; Harnett, epidemic; Jackson, 2; Lincoln, 20; Mecklenburg; Rutherford, 10; Sampson; Scotland; Vance, a few; Wake, many; Warren, several; Yadkin, 1; Yancey, many—16 counties.

WHOOPIING-COUGH.—Ashe, several; Bladen, a few; Caswell, several; Catawba, 1; Cherokee, in all parts; Clay, 2; Cleveland, many; Currituck, a few; Duplin, 35; Gaston, a few; Halifax, many; Iredell, 4; McDowell, 3; Martin, a few; Mecklenburg; Northampton, many; Orange, a few; Perquimans, 10; Randolph, a few; Richmond, many; Rutherford, 1; Scotland, 24; Vance, a few; Warren, a few; Washington, many—24 counties.

SCARLATINA.—Alexander, 8; Buncombe, 4; Cabarrus, 33; Caldwell, 3; Catawba, 2; Chowan, 1; Cleveland, a few; Davidson, many; Durham, 3; Forsyth, 2; Gaston, a few; Graham, 12; Granville, 1; Guilford, 3; Haywood, epidemic; Henderson, 3; Macon, a few; Mecklenburg; Richmond, 4; Rockingham; Rowan, 2; Rutherford, 5; Surry, 4; Union, 7; Wilkes, several—25 counties.

DIPHTHERIA.—Alamance, 4; Ashe, a few; Beaufort, 2; Bladen, 1; Buncombe, 1; Burke, 3; Cabarrus, 2; Caldwell, 9; Carteret, 2; Catawba, 1; Chowan, 3; Columbus, 1; Craven, 2; Cumberland, a few; Duplin, 10; Durham, 8 or 10; Edgecombe, 3; Gaston, 3; Granville, 1; Guilford, 1; Harnett, 6; Johnston, several; Lenoir, many; Martin, 2; Mecklenburg; New Hanover, 2; Pender, 5; Pitt, 1; Rowan, 2; Rutherford, 4; Sampson, 13; Transylvania, 1; Union, 1; Wake, 4; Wilkes, 4; Wilson, 2; Yancey, a few—37 counties.

**TYPHOID FEVER.**—Alexander, 4; Ashe, several; Beaufort, 3; Bladen, 3; Brunswick, 3; Burke, 5; Cabarrus, 2; Caldwell, a few; Cherokee, several; Clay, 4; Cleveland, a few; Columbus, 3; Cumberland; Duplin, 20; Durham, a few; Edgecombe, 1; Forsyth, a few; Gaston, 1; Granville, 4; Greene, 2; Guilford, 8; Halifax, a few; Harnett, 10; Henderson, 2; Iredell, 4; Jackson, 5; McDowell, 1; Macon, 1; Martin, 2; Mecklenburg; Mitchell, a few; Montgomery, 9; New Hanover, 1; Onslow, a few; Pender, 1; Person, 1; Randolph, 15; Richmond, 1; Robeson, a few; Rowan, 4; Rutherford, 7; Scotland, 6; Surry, 3; Transylvania, 1; Union, 3; Wake, 2; Warren, a few; Washington, 2; Watauga, 3; Wilkes, 2; Yadkin, 3; Yancey, a few—52 counties.

**MALARIAL FEVER.**—Alamance, in all parts; Craven; Currituck, a few; Halifax; Hyde; Perquimans, in all parts—6 counties.

**MALARIAL FEVER, PERNICIOUS.**—Hyde, several.

**MALARIAL FEVER, HEMORRHAGIC.**—Craven, 1; Halifax, 1.

**INFLUENZA.**—Alamance, in all parts; Hertford, in all parts; Madison, a few; Montgomery, a few; Pender, in all parts; Richmond; Surry, in all parts—7 counties.

**PNEUMONIA.**—Alamance, a few; Alexander, 8; Ashe, several; Beaufort, 4; Bladen, 3; Burke, 5; Cabarrus, 6; Caswell, several; Catawba, 2; Cherokee, several; Chowan, 7; Clay, 2; Cleveland, a few; Columbus, 2; Cumberland; Davidson, a few; Duplin, 4; Durham; Edgecombe, 1; Forsyth, a few; Gaston, 1; Graham, 2; Greene, 1; Halifax; Harnett, 11; Hertford, 4; Hyde, 1; Iredell, 3; Jackson, 3; McDowell, 1; Martin, 2; Mecklenburg; Montgomery, 4; New Hanover, 6; Onslow, a few; Pasquotank; Pender, 2; Polk, 4; Randolph, 5; Robeson, a few; Rowan, 3; Rutherford, 6; Swain, 6; Transylvania, several; Union, 2; Wake, 7; Washington, 1; Watauga, 2; Wilkes, 2; Yancey, a few—50 counties.

**MENINGITIS, CEREBRO-SPINAL.**—Harnett, 1.

**MUMPS.**—Madison, in all parts.

**VARICELLA.**—Lincoln.

**SMALLPOX.**—Ashe, 1; Davie, 2; Forsyth, 1; Guilford, 3; Johnston, 25; Orange, 6; Pitt, 11; Robeson, 2; Rockingham, 10; Sampson, 1—10 counties.

**CHOLERA, IN HOGS.**—Hertford, Washington.

**DISTEMPER, IN HORSES.**—Watauga.

**HYDROPHOBIA, IN DOGS.**—Union, several.

No diseases reported from Alleghany, Bertie, Camden and Nash.

No reports received from Anson, Chatham, Franklin, Gates, Moore, Stanly and Wayne.



## SUMMARY OF MORTUARY REPORTS FOR NOVEMBER, 1907.

## TWENTY-FOUR TOWNS.

	White.	Colored.	Total.
Aggregate population .....	140,550	91,050	231,600
Aggregate deaths .....	144	158	302
Representing temporary annual death-rate per 1,000.....	12.3	20.8	15.6
<i>Causes of Death.</i>			
Typhoid fever .....	6	1	7
Scarlet fever .....	2	0	2
Malarial fever .....	1	5	6
Diphtheria .....	3	2	5
Whooping-cough .....	4	3	7
Pneumonia .....	11	22	33
Consumption .....	12	25	37
Brain diseases .....	17	13	30
Heart diseases .....	11	8	19
Neurotic diseases .....	5	9	14
Diarrhoeal diseases .....	6	4	10
All other diseases.....	58	59	117
Accident .....	7	5	12
Suicide .....	1	0	1
Violence .....	0	2	2
	<hr/>	<hr/>	<hr/>
	144	158	302
Deaths under five years.....	34	54	88
Still-born .....	18	20	38



**Mortuary Report for November, 1907.**

TOWNS AND REPORTERS.	RACES.	POPULA- TION.		TEM- PORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough. Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL DEATHS.		Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																By Races.	By Towns.		
Charlotte .....	W.	18,000	30,000	10.0	11.6	1					1	1	1								15	29	7	5
Dr. F. O. Hawley.	C.	12,000		14.0								2	4	1	1				6				14	29
Durham .....	W.	12,000	18,000	13.0	18.7			1	1			1	3				1	4			13	28	6	2
Dr. T. A. Mann.	C.	6,000		30.0					1				5					1	8			15	28	8
Edenton .....	W.	3,000	6,000	16.0	18.0			1			1						1	1	1		4	9	2	
Dr. H. M. S. Cason.	C.	3,000		20.0									1	1					1	1	1		5	
Elizabeth City .....	W.	6,000	10,000	6.0	13.2						1						1	1			3	11	1	1
Dr. C. B. Williams.	C.	4,000		24.0									1	1	1			1	4				8	11
Fayetteville .....	W.	3,500	6,000	13.7	12.0		1				2				1						4	6	1	1
Dr. A. S. Rose.	C.	2,500		9.6									1	1									2	6
Goldsboro .....	W.	6,000	10,000	8.0	8.4		1							1							2	7	1	2
Robt. A. Creech, Esq.	C.	4,000		9.0					1						1				1				3	7
Greensboro .....	W.	10,000	16,000	9.6	16.5				1	1		2	1				3				8	22	1	
Dr. Edmund Harrison.	C.	6,000		23.0				1					2	3	1	3			4				14	22
High Point .....	W.	9,000	11,000	8.0	9.8						2		1				3				6	9	3	
Dr. C. E. Reitzel.	C.	2,000		18.0											1				2				3	
Henderson .....	W.	3,200	6,000	11.2	14.0							1					2				3	7	2	
Dr. A. S. Pendleton.	C.	2,800		17.1										2					2				4	7
Lexington .....	W.	3,000	3,600	8.0	6.7												2				0	2		
J. H. Moyer, Mayor.	C.	600		0.0																			0	
Marion .....	W.	1,400	1,500	17.1	24.0							1					1				2	3		
Dr. M. L. Justice.	C.	100		120.0															1				1	
New Bern .....	W.	6,500	14,000	7.4	13.7							1					1	2			4	16	3	
Dr. Charles Duffy.	C.	7,500		19.2					2				4	2	1				3				12	16
Oxford .....	W.	2,000	4,000	6.0	9.0									1							1	3		
Dr. S. D. Booth.	C.	2,000		12.0															2				2	3
Raleigh .....	W.	13,000	22,000	21.2	22.4				1		1	2	6	5		1	7	1			23	41	1	1
T. P. Sale, Clerk B. H.	C.	9,000		24.2							1		4	2				11				18	41	8
Reidsville .....	W.	4,000	6,000	3.0	10.0								1	1			1				1	5		
J. F. Smith, City Clerk.	C.	2,000		24.0											1	1			1				4	
Rocky Mount .....	W.	5,000	8,000	14.4	12.0				2				2	1			1				6	8	3	
Dr. L. C. Covington.	C.	3,000		8.0										2									2	
Salem .....	W.	3,400	3,800	24.7	22.1							1					6				7	7		
F. H. Vogler, Mayor.	C.	400		0.0																			0	
Salisbury .....	W.	7,400	11,000	9.7	10.9	2					1	1		1				1			6	10	2	1
Dr. H. T. Trantham.	C.	3,600		13.3											1				3				4	
Southport .....	W.	900	1,400	40.0	34.3	1						1					1				3	4		
Dr. J. A. Doshier.	C.	500		24.0											1								1	
Tarboro .....	W.	1,500	3,000	0.0	4.0																0	1		
Dr. W. J. Thigpen.	C.	1,500		8.0									1										1	1
Wadesboro .....	W.	1,200	2,000	10.0	12.0																1	2		
Dr. J. H. Bennett.	C.	800		15.0									1										1	
Weldon .....	W.	750	1,500	32.0	24.0								1				1				2	3	1	
J. T. Gooch, Mayor.	C.	750		16.0															1				1	
Wilmington .....	W.	16,000	30,000	15.0	22.8							1	2		4	11	2				20	57	3	3
Dr. Charles T. Harper.	C.	14,000		31.7							1		6	4	3		9	11	2				137	9
Wilson .....	W.	3,800	6,800	18.9	21.2	1							1		3	1					6	12	5	
Dr. W. S. Anderson.	C.	3,000		24.0					2	1							2	1					6	

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

### County Superintendents of Health.

Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. E. S. Ashe.	McDowell .....	Dr. M. L. Justice.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
Beaufort .....	Dr. D. T. Tayloe.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod
Cabarrus .....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Young.	New Hanover .....	Dr. W. D. McMillan.
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. E. Headen.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. H. M. S. Cason.	Perquimans .....	Dr. T. P. McMullen.
Clay .....	Dr. P. B. Killian.	Person .....	Dr. W. A. Bradsher.
Cleveland .....	Dr. T. E. McBrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk .....	Dr. Earle Grady.
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. S. A. Henley.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. N. C. Hunter.
Currituck .....	Dr. H. M. Shaw.	Robeson.....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. John A. Ferrell.	Sampson .....	Dr. Frank H. Holmes.
Durham .....	Dr. N. M. Johnson.	Scotland .....	Dr. K. A. Blue.
Edgecombe .....	Dr. W. J. Thigpen.	Stanly.....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston.....	Dr. L. N. Glenn.	Swain.....	Dr. J. A. Cooper.
Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham .....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. F. Abel.	Watauga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. T. L. Ginn.
Hertford .....	Dr. J. H. Mitchell.	Wilkes.....	Dr. John Q. Myers.
Hyde .....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. S. L. Russell.
Jackson.....	Dr. A. A. Nichols.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. L. D. Wharton.		





Prof Cobb

# BULLETIN

## OF THE

# NORTH CAROLINA BOARD OF HEALTH

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*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

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### HOW TO SECURE A PURE MILK SUPPLY.

BY GERALD MCCARTHY, BIOLOGIST.

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Aside from possible infection with disease-producing germs, milk consumers are most interested in the cleanliness and physical character of their supply.

Pure milk consists of a mechanical mixture of water with fat, curd and a few mineral substances.

The average grade of pure milk contains in 100 pounds the following solids: Fat, 3.6 pounds; curd, 3.3 pounds; albumen, 0.7 pounds; milk sugar, 4.7 pounds; ash, 0.7 pounds. Total solids, 13.0 pounds. Total water 87.0 pounds.

The ash constituent includes potash, lime, magnesia, soda and iron. There are also present in combination with the minerals named sulphuric, chlorohydric and phosphoric acids. The sugar, albumen and all the minerals, except lime, are dissolved in the water. The lime and fat together form an emulsion in the watery part of the fluid.

In Southern cities and towns milk is, as a rule, retailed from hand or wagon directly by the producer. Such milk usually reaches the consumer before it is four hours old, and often while still "warm from the cow." Contrary to the general opinion, such cow-warm or ultra-fresh milk is not desirable, and its sale should be discouraged. Such milk cannot be made to keep sweet for more than a few hours after being delivered. If the same milk had been cooled off to 50° F.

as soon as drawn, it would, under ordinary conditions, keep sweet for twelve hours or more. In order to get warm milk to customers before breakfast it is necessary to milk the cows about 4 A. M. Under such circumstances sleepy milkers are not likely to take the necessary care to prevent contamination of the milk by dirt. The better plan is to keep the preceding evening's milk on ice and deliver in the morning; the morning's milk in same manner to be delivered in the afternoon.

Many careful physicians advise their patients to use, during the summer months, only boiled milk, or, as it is variously styled, "pasteurized" and sterilized milk. Pasteurized milk is, properly, milk that has been heated in a closed vessel for twenty minutes at a temperature of 158° F. "Sterilized" milk is a misnomer when it merely means milk that has been brought to the boiling point for a few seconds. Milk usually contains putrefactive, spore-bearing germs that cannot be killed by several hours' boiling.

Owing to scarcity and high cost of ice, it has been suggested that all market milk be pasteurized by the producer. Were dairymen required or even permitted to pasteurize or heat their milk, as some reformers have proposed, the process would undoubtedly be used as a cloak for still more dirty practices. Pasteurization renders milk less digestible and less nutritious. Moreover, pasteurized milk, having had all its useful, acid-forming germs destroyed, leaves a clear field for the development of the noxious and spore-forming species. If milk, after being pasteurized, becomes infected with the typhoid or "summer diarrhœa" germs, these latter will, under such circumstances, increase at an enormous rate and quickly render pasteurized milk more deadly than the worst infected natural milk.

Many other dangerous infectious diseases are distributed in unclean milk. In fact, there are few bacteria known to science which will not thrive and multiply in sweet milk. Bacteria exist everywhere. They are present in houses, barns and wherever milk is ordinarily kept. Unless milk is hermetically or aseptically sealed, germs will find their way into it. If scarlet fever, diphtheria or typhoid exist on the premises, unless special precautions are taken, the disease germs are very likely to find their way into the milk can and from this into the bodies of those who consume the milk. In households free from infectious diseases the species of bacteria most commonly found in raw milk are those belonging to the putrefactive group. One of the most common bacteria found in milk is the colon germ—*Bacillus coli-commune*. This species exists normally in the intestines and feces of all vertebrates. It is not itself pathogenic, but its presence in milk indicates fecal contamination. Cows' feces is more dangerous than has been commonly supposed. It is now known that tuberculous cattle pass with feces virulent tubercle germs in enormous numbers. It is calculated that the average town of 10,000 inhabitants consumes daily in its milk supply about five pounds of cows' feces. This



amount of feces may contain from thirty million to fifty million tubercle germs.

The active agent in the normal souring of milk is *Bacillus acidilactici*. This germ exerts a favorable influence upon the digestibility of the curd of milk and is a useful species. It is killed by a temperature of 130° F.

*Bacillus tuberculosis*, the germ of human consumption, is often found in milk. The growth of this germ in milk is possible only while the temperature is between 84° F. and 104° F. It is killed by a temperature of 154° F. maintained for ten minutes.

*Bacillus typhosus*, the germ of typhoid fever, very frequently infects milk. This germ does not normally exist in the bodies of cows. It usually gets into the milk from human excrement, which frequently becomes attached to the udders of cows in dirty yards and fields and thence falls into the milk pail during milking. More frequently, perhaps, this germ gets into milk along with polluted water used to wash the cans or possibly to dilute the milk. The typhoid germ is killed by a temperature of 140° F. maintained for ten minutes.

The germ of diphtheria is known to have been transmitted from house to house in milk. This germ is killed by a temperature of 137° F. maintained for ten minutes. The germ of infantile diarrhœa, really the most death-dealing germ commonly found in milk, is not killed by a temperature under 185° F. The specific germ of scarlet fever has not yet become known to science, but this disease is certainly disseminated in contaminated milk. The so-called "tyro-toxicon," or germ of ice-cream poisoning, is also unknown, but its presence in impure milk and stale ice-cream has been often shown by the effect.

Most towns have a code of rules for controlling milkmen; but, to tell the truth, the more elaborate this code, the less it is feared by those whose interest it is to disregard it.

Rules, to be useful, must be practicable. They should be as few and simple as the local circumstances will permit. Dairy farming is a concrete problem, with its own special difficulties and limitations. Dairymen are, as a rule, poor, and cannot always afford fancy "sanitary" appliances. Conscientious work will, in general, insure a better quality of milk than fancy appliances will neglect.

More important than any set of rules is the personality of the milk inspector. A live, active man, with personal knowledge of the conditions of local dairying, is for this position a *sine qua non*. Every town of 5,000 or more inhabitants should employ such an inspector, and have him, if possible, devote his whole time to the work. He should visit the farms where the milk is produced at frequent intervals and unexpected times.

Among useful municipal regulations, applicable to all localities, may be named the following:

1. Cows must be brushed with a stiff "broom-brush" and their udders wiped with a clean, wet cloth one-half hour before milking.

2. Milkers must wear clean aprons, kept for that especial use. The milk pails must be covered with a piece of double-folded cheese-cloth, through which the milk falls into the vessel. This cloth must be washed in *cold*, not hot, soapy water, after each milking, and then rinsed and hung in the sunlight until dry.

3. Cows must not be fed hay, straw or dry food of any kind while being milked.

4. Cows must not be milked in a filthy or manure-littered barn, stable or yard.

5. Milk, as soon as drawn, must be strained into well-cleaned bottles or cans, in which it is to be delivered and immediately cooled to 50° F. It must be kept below 60° F. until delivered to the consumer.

6. No preservatives, artificial coloring or any foreign substance whatsoever shall be added to milk.

7. Milk having a fat content of less than 3.5 per cent., or total solids less than 12.5 per cent., shall not be sold as whole milk.

8. The total number of bacteria in milk as delivered to consumers shall not exceed 75,000 per cubic centimeter. There shall be no tubercle bacteria present, nor any evidence of inflammation within the udder.

9. One quart of milk, when filtered through doubled cheese-cloth, shall leave behind no appreciable sediment or solid residue.

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## REVIEW OF DISEASES FOR DECEMBER, 1907.

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### SEVENTY-SEVEN COUNTIES REPORTING.

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Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of December the following diseases have been reported from the counties named:

MEASLES.—Alleghany, in all parts; Ashe, a few; Cumberland, many; Duplin, 80; Forsyth, a few; Gaston, many; Harnett, epidemic; Jackson, 5; Lincoln, 10; Martin, a few; Mitchell, a few; New Hanover, 1; Randolph, a few; Richmond, 1; Rockingham; Sampson, a few; Washington, many—17 counties.

WHOOPIING-COUGH.—Alleghany, in all parts; Ashe; Bladen, a few; Burke, a few; Caldwell, 3; Cleveland, many; Columbus, 7; Currituck,

a few; Duplin, 50; Edgecombe, a few; Gaston, a few; Harnett, 7; Lincoln, general; Macon, several; Martin, a few; Mitchell, many; Northampton, many; Onslow; Randolph, a few; Richmond, many; Robeson, a few; Rockingham; Sampson, a few; Scotland; Washington, a few; Wayne, 1; Yadkin, a few—27 counties.

INFLUENZA.—Alamance, Burke, Camden, Clay, Davie, Harnett, Henderson, in all parts; Hertford; Mitchell; Robeson; Rowan; Stanly; Surry, Washington, Yadkin, in all parts—15 counties.

PNEUMONIA.—Alamance, several; Alexander, 20; Alleghany, in all parts; Ashe, many; Beaufort, several; Bladen, 2; Brunswick, 5; Burke, a few; Cabarrus, 12; Caldwell, 5; Camden, 5; Catawba, 3; Chowan, 10; Clay, 4; Cleveland, a few; Columbus, 3; Craven; Cumberland; Currituck, 1; Davidson, a few; Davie, a few; Duplin, 4; Durham, a few; Edgecombe, 1; Forsyth, a few; Franklin, a few; Gaston, several; Gates, 7; Granville, 4; Greene, 4; Harnett, 12; Henderson, 3; Iredell, several; Jackson, 7; Lincoln, 8; McDowell, several; Macon, many; Madison; Martin, a few; Mitchell; Montgomery, 4; New Hanover, 2; Northampton; Onslow; Orange, several; Perquimans, several; Person, 4; Polk, 3; Randolph, 10; Richmond, 1; Robeson, several; Rowan, 15; Rutherford, 12; Sampson, 1; Scotland, 5; Stanly; Swain, 6; Transylvania, a few; Union, 4; Wake, 8; Warren, a few; Washington, 2; Watauga, 4; Wayne, 2; Yancey, several—65 counties.

SCARLATINA.—Ashe, a few; Buncombe, 2; Cabarrus, 25; Catawba, 4; Davidson, several; Forsyth, 5; Gaston, 3; Graham, 5; Henderson, 9; Iredell, 8; New Hanover, 1; Rockingham, a few; Rowan, 1; Surry, 6; Transylvania, 60; Union, 6—16 counties.

DIPHTHERIA.—Alamance, 1; Ashe; Beaufort, 1; Cabarrus, 1; Caldwell, 3; Currituck, 3; Duplin, 3; Edgecombe, 3; Gaston, 2; Gates, 10; Guilford, 1; Harnett, 2; McDowell, 1; Macon, a few; New Hanover, 1; Pitt, 1; Rockingham; Rutherford, 6; Surry, 2; Swain, 1; Wake, 2; Watauga, 1; Wayne, several; Yadkin, 3; Yancey, 2—25 counties.

TYPHOID FEVER.—Alexander, 1; Ashe, several; Beaufort, 4; Bladen, 2; Burke, 1; Cabarrus, 8; Caldwell, a few; Catawba, 2; Clay, 2; Columbus, 10; Craven, 1; Cumberland; Davie, a few; Duplin, 22; Durham, 1; Edgecombe, 1; Gaston, 1; Gates, 4; Granville, 6; Harnett, 2; Hertford, 6; Jackson, 3; Madison; Montgomery, 2; New Hanover, 4; Orange, 1; Pender, 1; Person, 2; Randolph, 6; Robeson, a few; Rockingham; Rutherford, 8; Sampson, a few; Scotland, 3; Surry, 4; Wake, 2; Warren, a few; Watauga, 2; Yancey, a few—39 counties.

MALARIAL FEVER.—Perquimans.

MUMPS.—Burke, a few; Pender; Randolph, in all parts.

CEREBRO-SPINAL MENINGITIS.—Gaston, 1.

RUBELLA.—Onslow, 2.

SMALLPOX.—Alamance, 17; Cabarrus, 36; Chowan, 7; Currituck, 2; Davidson, 2; Davie, 3; Edgecombe, 3; Forsyth, 17; Gaston, 4; Guilford, 61, in northwest and northeast corners—"A man with smallpox

spent the night in a sleeping-room of a warehouse and exposed about sixty farmers at one time, and we did not hear of the first case for two weeks from this exposure. We have the disease under control at present, and we have no fear of a spread." Orange, 6; Perquimans, 1; Rockingham, 43; Rowan, 35; Wayne, 3; Yadkin, 1—16 counties.

CHOLERA, IN HOGS.—Cabarrus, Hertford, Onslow.

GLANDERS, IN HORSES.—New Hanover, 1 case—the body was destroyed.

No diseases reported from Bertie, Nash and Wilson.

No reports received from Anson, Carteret, Caswell, Chatham, Cherokee, Halifax, Haywood, Hyde, Johnston, Lenoir, Mecklenburg, Moore, Pasquotank, Vance and Wilkes.

## SUMMARY OF MORTUARY REPORTS FOR DECEMBER, 1907.

## TWENTY TOWNS.

	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>
Aggregate population .....	127,450	82,850	210,300
Aggregate deaths .....	140	156	296
Representing temporary annual death rate per 1,000.....	13.2	22.6	16.9
<i>Causes of Death.</i>			
Typhoid fever .....	7	4	11
Malarial fever .....	0	1	1
Whooping-cough .....	1	1	2
Measles .....	0	1	1
Pneumonia .....	19	24	43
Consumption .....	9	29	38
Brain diseases .....	16	5	21
Heart diseases .....	6	12	18
Neurotic diseases .....	4	6	10
Diarrheal diseases .....	4	2	6
All other diseases.....	63	58	121
Accident .....	11	10	21
Violence .....	0	3	3
	140	156	296
Deaths under five years.....	32	52	84
Still-born .....	8	13	21

## Mortuary Report for December, 1907.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEM- PORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL DEATHS.		Deaths under five years. Stillborn.	
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		
Charlotte .....	W.	18,000	30,000	12.7	14.4	---	---	---	---	---	---	3	1	2	---	3	10	---	---	---	---	19	36	6	1
Dr. F. O. Hawley.	C.	12,000		17.0		---	---	---	---	---	---	---	4	4	---	---	---	---	---	---	---	---	17	36	7
Durham .....	W.	12,000	18,000	19.0	24.0	1	---	---	---	1	---	3	2	2	---	---	7	---	---	---	---	19	36	6	---
Dr. T. A. Mann.	C.	6,000		34.0		2	---	---	---	---	---	3	3	1	1	---	---	---	7	---	---	---	17	36	6
Edenton .....	W.	3,000	6,000	8.0	8.0	---	---	---	---	---	---	1	1	---	---	---	---	---	---	---	---	2	4	---	---
Dr. H. M. S. Cason.	C.	3,000		8.0		---	---	---	---	---	---	---	1	1	---	---	---	---	---	---	---	---	2	4	---
Elizabeth City .....	W.	6,000	10,000	6.0	9.6	1	---	---	---	---	---	---	---	1	---	---	1	---	---	---	---	3	8	1	---
Dr. C. B. Williams.	C.	4,000		15.0		---	---	---	---	---	---	---	---	---	1	1	---	---	3	---	---	---	5	3	2
Fayetteville .....	W.	3,500	6,000	6.8	14.0	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	2	7	1	---
Dr. A. S. Rose.	C.	2,500		24.0		---	---	---	---	---	---	---	1	1	---	---	---	---	2	1	---	---	5	7	2
Greensboro .....	W.	10,000	16,000	10.8	13.5	1	---	---	---	---	---	1	1	2	---	---	3	1	---	---	---	9	18	2	1
Dr. Edmund Harrison.	C.	6,000		18.0		1	---	---	---	---	---	---	---	2	---	2	---	---	4	---	---	---	9	18	3
High Point .....	W.	9,200	11,200	3.1	6.4	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	3	6	1	5
Dr. C. E. Reitzel.	C.	2,000		18.0		---	---	---	---	---	---	---	1	---	---	---	---	---	2	---	---	---	3	6	1
Marion .....	W.	1,500	1,600	16.0	15.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	2	---	---
Dr. M. L. Justice.	C.	100		0.0		---	---	---	---	---	---	---	---	1	---	---	---	---	1	---	---	---	0	2	---
New Bern .....	W.	6,500	14,000	14.8	17.1	---	---	---	---	---	---	3	---	---	---	---	1	2	---	---	---	8	20	4	1
Dr. Charles Duffy.	C.	7,500		19.2		---	---	---	---	---	---	---	3	3	---	1	---	---	5	---	---	---	12	20	7
Oxford .....	W.	2,000	4,000	0.0	6.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0	2	---	---
Dr. S. D. Booth.	C.	2,000		12.0		---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	0	2	---
Raleigh .....	W.	13,000	22,000	20.3	24.5	2	---	---	---	---	---	2	---	5	1	---	1	9	---	---	---	22	45	2	---
T. P. Sale, Clerk B. H.	C.	9,000		30.7		---	---	---	---	---	---	---	---	4	4	---	---	---	15	---	---	---	23	45	9
Reidsville .....	W.	4,000	6,000	12.0	18.0	---	---	---	---	---	---	1	---	---	---	---	3	---	---	---	---	4	9	1	---
J. F. Smith, City Clerk.	C.	2,000		30.0		---	---	---	---	---	---	---	---	1	---	1	---	---	3	---	---	---	5	9	1
Rocky Mount .....	W.	5,000	8,000	4.8	6.0	1	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	2	---	---	---
Dr. L. C. Covington.	C.	3,000		8.0		---	---	---	---	---	---	---	---	1	---	---	---	---	1	---	---	---	2	---	---
Salem .....	W.	3,400	3,800	14.1	22.1	---	---	---	---	---	---	1	---	---	---	---	3	---	---	---	---	4	---	---	---
F. H. Vogler, Mayor.	C.	400		90.0		---	---	---	---	---	---	---	---	2	---	---	---	---	1	---	---	---	3	7	---
Salisbury .....	W.	7,400	11,000	5.4	14.2	---	---	---	---	---	---	1	1	---	1	---	---	---	---	---	---	5	13	---	---
Dr. H. T. Trantham.	C.	3,600		26.7		1	---	---	---	---	---	---	3	2	---	---	---	---	2	---	---	---	8	13	1
Southport .....	W.	900	1,400	0.0	17.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0	1	---	---
Dr. J. A. Doshier.	C.	500		24.0		---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	1	---
Tarboro .....	W.	1,500	3,000	56.0	36.0	---	---	---	---	---	---	---	2	1	---	---	4	---	---	---	---	7	9	1	---
Dr. W. J. Thigpen.	C.	1,500		16.0		---	---	---	---	---	---	---	---	1	---	---	---	---	1	---	---	---	---	2	9
Weldon .....	W.	750	1,500	32.0	32.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	---	---	---
J. T. Gooch, Mayor.	C.	750		32.0		---	---	---	---	---	---	---	1	---	---	---	---	---	1	---	---	---	---	2	---
Wilmington .....	W.	16,000	30,000	15.7	20.4	1	---	---	---	---	---	1	2	2	1	1	9	2	---	---	---	21	51	7	---
Dr. Charles T. Harper.	C.	14,000		25.7		---	---	---	---	---	---	---	---	3	7	---	5	4	2	4	2	---	3	30	7
Wilson .....	W.	3,800	6,800	18.9	24.7	---	---	---	---	---	---	---	---	---	---	1	---	5	---	---	---	6	14	---	---
Dr. W. S. Anderson.	C.	3,000		32.0		---	---	---	1	---	1	---	---	---	---	---	1	---	3	2	---	---	---	8	14

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."



### County Superintendents of Health.

---

Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. E. S. Ashe.	McDowell .....	Dr. M. L. Justice.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
Beaufort .....	Dr. D. T. Tayloe.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunnstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan.
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. E. Headen.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. H. M. S. Cason.	Perquimans.....	Dr. T. P. McMullen.
Clay .....	Dr. P. B. Killian.	Person .....	Dr. W. A. Bradsher.
Cleveland .....	Dr. T. E. McBrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk.....	Dr. Earle Grady.
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. S. A. Henley.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. N. C. Hunter.
Currituck .....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie.....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. John A. Ferrell.	Sampson.....	Dr. Frank H. Holmes.
Durham .....	Dr. N. M. Johnson.	Scotland .....	Dr. K. A. Blne.
Edgecombe .....	Dr. W. J. Thigpen.	Stanly.....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston.....	Dr. L. N. Glenn.	Swain.....	Dr. J. A. Cooper.
Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham.....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. F. Abel.	Watanga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. T. L. Ginn.
Hertford .....	Dr. J. H. Mitchell.	Wilkes.....	Dr. John Q. Myers.
Hyde.....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson.
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. S. L. Russell.
Jackson.....	Dr. A. A. Nichols.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. L. D. Wharton.		

as soon as drawn, it would, under ordinary conditions, keep sweet for twelve hours or more. In order to get warm milk to customers before breakfast it is necessary to milk the cows about 4 A. M. Under such circumstances sleepy milkers are not likely to take the necessary care to prevent contamination of the milk by dirt. The better plan is to keep the preceding evening's milk on ice and deliver in the morning; the morning's milk in some manner to be delivered in the afternoon.

Many careful physicians advise their patients to use, during the summer months, only boiled milk, or, as it is variously styled, "pasteurized" and "sterilized" milk. Pasteurized milk is properly milk which has been heated in a closed vessel for twenty minutes at a temperature of 175° F. or 180° F. It is a good deal better when it merely heats milk that has been exposed to the air for a few seconds. Milk usually contains a large number of germs that cannot be killed by several hours' boiling.

Owing to scarcity and high cost of ice, it has been suggested that all market milk be pasteurized by the producer. Were dairymen required or even permitted to pasteurize or heat their milk, as some reformers have proposed, the process would undoubtedly be used as a cloak for still more dirty practices. Pasteurization renders milk less digestible and less nutritious. Moreover, pasteurized milk, having had all its useful, acid-forming germs destroyed, leaves a clear field for the development of the noxious and spore-forming species. If milk, after being pasteurized, becomes infected with the typhoid or "summer diarrhoea" germs, these latter will, under such circumstances, increase at an enormous rate and quickly render pasteurized milk more deadly than the worst infected natural milk.

Many other dangerous infectious diseases are distributed in unclean milk. In fact, there are few bacteria known to science which will not thrive and multiply in sweet milk. Bacteria exist everywhere. They are present in houses, barns and wherever milk is ordinarily kept. Unless milk is hermetically or aseptically sealed, germs will find their way into it. If scarlet fever, diphtheria or typhoid exist on the premises, unless special precautions are taken, the disease germs are very likely to find their way into the milk can and from this into the bodies of those who consume the milk. In households free from infectious diseases the species of bacteria most commonly found in raw milk are those belonging to the putrefactive group. One of the most common bacteria found in milk is the colon germ—*Bacillus coli-commune*. This species exists normally in the intestines and feces of all vertebrates. It is not itself pathogenic, but its presence in milk indicates fecal contamination. Cows' feces is more dangerous than has been commonly supposed. It is now known that tuberculous cattle pass with feces virulent tubercle germs in enormous numbers. It is calculated that the average town of 10,000 inhabitants consumes daily in its milk supply about five pounds of cows' feces. This

# BULLETIN

## OF THE

# NORTH CAROLINA BOARD OF HEALTH

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*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

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G. G. THOMAS, M. D., *Pres.*, Wilmington.

THOMAS E. ANDERSON, M. D., Statesville.

J. HOWELL WAY, M. D., Waynesville.

W. O. SPENCER, M. D., Winston-Salem.

EDW. C. REGISTER, M. D., Charlotte.

DAVID T. TAYLOE, M. D., Washington.

J. A. BURROUGHS, M. D., Asheville.

J. L. LUDLOW, C. E., Winston-Salem.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

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VOL. XXII.

FEBRUARY, 1908.

No. 11.

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### STATE LABORATORY OF HYGIENE.

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This most useful agency for the protection of the public health originated in 1900 in the generous response of the State Board of Agriculture to the request of the State Board of Health, which had no money for the purpose, to have made in its laboratory biological examinations of drinking water suspected of causing typhoid fever. By the act to protect water supplies, passed by the Legislature of 1903, some revenue was derived by the Board of Health, which then assumed a large part of the expense, the Board of Agriculture continuing to contribute, however, by furnishing the laboratory and paying a part of the salary of the Biologist until June 1, 1907, when, the Legislature of 1907 having made an annual appropriation of \$2,000 from the general fund to supplement the tax on public water companies, the partnership was dissolved and the entire support and control of the laboratory was assumed by the Board of Health.

This work was assigned by the Board of Agriculture to Mr. Gerald McCarthy, who for many years had been employed in various capacities. Under his management the work of the laboratory has increased and broadened since its inception. About two years ago he announced his intention of leaving the State in the summer of 1907, but as his successor, who was elected at the annual meeting of the State Board of Health in June last, could not take charge before the

first of the year, he was asked to continue the work until March 1st, to which he agreed. He will go abroad, we understand, for further study.

Upon Mr. McCarthy's announcement of his intention to quit in 1907 steps were taken to find a first-class man for the work. Such a man has been found in Dr. C. A. Shore. Dr. Shore is a native of Forsyth County; graduated at the University with the degree of B. S.; a year later took the degree of Master of Science; for two of his undergraduate years was assistant in the biological laboratory, and for three years after his graduation instructor in biology, under Professor Wilson. He was employed in his vacation by the U. S. Bureau of Fisheries to investigate the crustacea of the Beaufort region, and as Assistant Botanist was a member of the expedition to the Bahamas sent out by the Baltimore Geographical Society in 1903. During his medical course at Johns Hopkins, from which he received the degree of M. D., he took special training in water and milk analysis. During the vacations in the bacteriological laboratory of the State of Maryland he did the routine as well as special work. He also had unusual opportunities to investigate the methods and work of the health laboratories of Philadelphia, New York and Massachusetts. He has likewise made a special study of the diagnosis and treatment of hydrophobia by the Pasteur method. By authority of a special act passed by the last Legislature the Board of Health hopes to utilize this special training for the benefit of our people, to the saving of much money by those bitten by rabid animals.

Dr. Shore's ability and training is testified to, among a number, by such men as Dr. William H. Welch, the famous professor of Bacteriology and Pathology at Johns Hopkins; Dr. William Royal Stokes, Bacteriologist of the Maryland Laboratory; Dr. H. V. Wilson and President Venable, of our own University. Dr. Stokes, who is engaged in the very same work, says that he is "thoroughly prepared to conduct both the routine work and any research work which may become necessary in conducting investigations in bacteriology applicable to State Board of Health work." President Venable says: "I take great pleasure in recommending Dr. C. A. Shore for the position of director of the State Biological Laboratory. Dr. Shore is a graduate of the University and also of the Johns Hopkins Medical School. While a student at the University he was for several years an assistant to Dr. H. V. Wilson, of the biological laboratory, and is one of the most thoroughly trained men that the University has turned out from that department. You will find him reliable in every respect and a most excellent man for the position."

With his special training in medicine, in addition to his laboratory experience of about ten years, Dr. Shore will be able to still further enlarge the scope of the laboratory, thereby making it more useful



to the people by the help rendered through the medical profession in making the diagnosis of such obscure troubles as require laboratory methods for their elucidation.

We commend Dr. Shore with confidence to the profession, the water companies and the people as an able, conscientious, thoroughly trained man, safe and reliable in character as in learning and skill. He takes charge March 1st.

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### HOOKWORM DISEASE AGAIN.

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At the meeting of the State Medical Society at Hot Springs about five years ago Dr. Charles Wardell Stiles, Chief Zoologist of the U. S. Public Health and Marine Hospital Service, upon the invitation of the Secretary of the Society, at that time Dr. Way, delivered an address on the American Hookworm, *Uncinaria Americana*. While the existence of such a parasite was probably known in the East three thousand five hundred years ago and in Europe for fifty years, the presence of the American species was unknown until it was discovered by Dr. Stiles himself in 1902.

This was an extremely interesting, illuminating and helpful address. It explained conclusively the cause of the anæmia, stunted growth, feebleness, and apparent laziness of the poor whites of the rural districts of the South—in extreme cases what are known as dirt eaters—the hookworm being a blood sucker.

Realizing its great importance to our people, we promptly gave to our readers, among whom we number all the physicians in the State, the valuable results of Dr. Stiles' discovery and experience. At first considerable interest was shown by the profession, but, judging from the falling off to almost *nil* of applications to the Laboratory of Hygiene for diagnosis by microscopic examination of fæces, it appears to have about died out. This, however, may be, and we hope is, only apparent, as the symptoms of the disease and general appearance of the victims are so pronounced and characteristic that a diagnosis can, in most cases, be made literally at a glance, now that these symptoms and their usual cause are known.

Acting under the direction of the Commission recently appointed to make a study of and report on child and woman labor in the United States, Dr. Stiles concluded his tour of inspection of the cotton mills of the South at Raleigh in January. Upon request, he gave a resumé of his observations and conclusions to the Wake County Medical Society, manufacturers and business men of the city. His inspection, necessarily, included only groups of mills in different sections. In our State he found the disease most abundant in the East, over sixty per cent. of the operatives in the mills—next most common in the mills drawing their help from the mountains, and least preva-

lent in those of the middle section—from five per cent. to ten per cent. He expressed the opinion that the anæmic condition of so many of the operatives in our Southern mills, especially children, was due, not so much to the conditions inherent in the mill work *per se*, as to the hookworm disease brought with them from the country; that the disease, being caused by soil pollution from lack of privies, the migration of the poor whites from the farm to the mill was a step upward in the promotion of health. While not belittling the deleterious effects upon the health of children of work in the mills, and cordially endorsing the legislation to protect child labor, we agree with him in the opinion that hookworm disease is chiefly to blame. In the support of his contention he cited the fact that it took him three days to find a case of pronounced anemia in the Granite Mills of South Carolina, one of the oldest mills in the South, where the operatives were of the third generation, while in a new mill recently built by the same company, in which the hands were freshly drawn from the country, he found sixty per cent. of such cases.

Hookworm disease, we are satisfied, is one of the most widely prevalent and in its final results one of the most serious diseases in our latitude. Its cure is not difficult and its prevention, theoretically, the simplest of problems, but practically one of the most difficult. The sole cause of the disease being soil pollution by faecal matter, it can be entirely prevented by building a suitable privy and insisting on its invariable use. But to get that done, except sporadically, is a Herculean task, which is still further complicated by the negro population. If our school authorities, who we are glad to know are interested in this important subject, will provide every rural school with two privies, one for each sex, the teacher being instructed to require the pupils to use them, giving the reason for it, much can be accomplished directly and in educating, through the children, public opinion on the subject. We hope much, too, from the development of self-respect and proper pride that will come as our people are better educated. The outlook on this ground is brighter by reason of the rapid improvement that is going on in our public schools.

But with the cotton mills the problem is not so much the prevention as the cure; and it is an easy one compared with the same problem in the country. In the latter the families are scattered and isolated, they are poor and, not having any acute disease, the advice of the family physician is not sought. They do not know anything about the disease and there is no one to tell them except the doctor. We hope, as a matter of simple humanity, that our physicians will devote themselves to missionary work in this line. When called to any of these families for any reason, if he sees that other members of the family are evidently subjects of this disease, let him explain its nature to the parents, and the way of prevention, at the same



time offering to prescribe for them without charge, if the circumstances indicate it. This would not only be a work of humanity and charity, but, in the end, would redound to the physician's financial profit, as improved health and consequent increase in energy would enable them to earn more money with which to pay his bills.

The problem in the cotton mill population is a different and simpler one. Owing to the publicity of the village life and the provision of privies the danger of soil pollution is almost entirely eliminated, and with it the danger of repeated and continuing infection, so that the patient once cured will remain cured, as the worms do not propagate in the intestines, the supply being kept up by reinforcements from without. The practical difficulty will be to induce the operatives to submit to treatment. We believe, with Mr. W. H. Williamson, a progressive cotton manufacturer of this city, that it would pay the mills to employ a physician for this special work. We would advise this, and would suggest further that the medical services and medicine should be offered free of charge. But this alone would probably not be sufficient to reach all in need of treatment. This treatment is not pleasant, although not particularly disagreeable; but no one, especially children, likes to take medicine if he can avoid it. So some special inducement must be held out, say the payment of a small sum of money, ten or twenty-five cents, directly to the child, not the parent, every time he takes a treatment. In order to eradicate the disease from the mill village not only the children at work in the mill, but all the children of the mill community, should be treated.

The treatment is simple and certain. It consists in the administration at four o'clock in the afternoon of a dose of salts, at six the next morning of a dose of thymol, in two hours another dose of thymol, and two hours after that another dose of salts, the patient taking liquid food between the two doses of salts. As thymol, when dissolved and absorbed, is a powerful depressant and dangerous, special care should be taken to avoid anything containing alcohol or grease, as it is soluble in both. The maximum amount of thymol administered in twenty-four hours recommended by Dr. Stiles is for the different ages, not actual ages, but apparent, as shown by size and weight, as follows:

Under 5 years.....	7½ grains.
5 to 10 years.....	15 grains.
10 to 15 years.....	30 grains.
15 to 20 years.....	45 grains.
20 to 60 years.....	60 grains.
Above 60 years.....	45 grains.

That work in the mill may not be interfered with the treatment should be given Saturday afternoon and Sunday morning. It should

be repeated once a week, three times ordinarily and oftener in exceptionally bad cases. An iron tonic should always be administered between times and afterwards. A complete cure can be demonstrated only by absence of eggs in the feces, as shown under the microscope. These examinations, as well as those for positive diagnosis, will be made in the State Laboratory of Hygiene free of charge for all who may apply. Address Dr. C. A. Shore, Director, State Laboratory of Hygiene, Raleigh, N. C., for proper containers for shipping specimens of feces.

We do not believe that our cotton mills could expend the same amount of money to better advantage, thereby not only improving the character and efficiency of their labor, but removing a greater part of the criticism to which they are now subjected, in no small degree unjustified, we feel, on account of the unhealthy appearance of their operatives, than by carrying out, essentially, the above suggestions.

Hookworm disease, is, in our opinion, the special bane of our own and the other Southern States. A large portion of our population is composed of what are known as "poor whites." They are essentially a fine strain of people, of pure Anglo-Saxon blood. They are brave, independent, patriotic and hospitable, but their vitality is sapped—to the extent of forty per cent., as estimated by Stiles—by the insidious working of this parasite. They are poor largely because they are sick. Relieved of this burden and educated, they would become an element of which any State would be proud, and whole sections of our Southern country now characterized by thriftlessness and poverty would blossom as the rose.

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## REVIEW OF DISEASES FOR JANUARY, 1908.

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### SEVENTY-FIVE COUNTIES REPORTING.

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Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of January the following diseases have been reported from the counties named:

MEASLES.—Alleghany, several cases; Ashe, a few; Brunswick, 4; Camden, epidemic; Chowan, several; Cleveland, many; Cumberland; Currituck, a few; Duplin, 200; Forsyth, a few; Gaston, many; Guil-

ford, 4; Harnett, 25; Henderson, several; Lincoln, 20; Madison, in all parts; Martin, a few; Mecklenburg; Onslow; Pasquotank, several; Pender, many; Perquimans, 1; Polk, 2; Randolph, 4; Robeson, a few; Sampson, a few; Surry, 6; Union, several; Vance, a few; Washington, 1; Watauga, 50—32 counties.

WHOOPIING-COUGH.—Ashe, several; Bladen, a few; Brunswick, 2; Caldwell, 40; Cleveland, many; Columbus, 3; Craven, several; Duplin, 75; Edgecombe, a few; Forsyth, a few; Gaston, many; Harnett, 4; Lincoln, 30; Madison, in all parts; Mecklenburg; New Hanover, a few; Northampton, epidemic; Onslow; Perquimans, 5; Randolph, 6; Richmond, many; Robeson, a few; Rutherford, 3; Sampson, a few; Scotland, 12; Union, several—26 counties.

SCARLATINA.—Ashe, a few; Burke, 2; Catawba, 2; Davidson, 6; Forsyth, 4; Gaston, a few; Guilford, 2; Haywood, a few; Henderson, 3; Hertford, 1; Jackson, 3; Lincoln, 1; Montgomery, 5; Northampton, epidemic; Pitt, 2; Richmond, 1; Rowan, 1; Surry, 2; Transylvania, several; Union, 12—20 counties.

DIPHTHERIA.—Ashe, a few; Beaufort, 4; Catawba, 1; Duplin, 5; Gaston, 1; Gates, 13; Guilford, 3; Harnett, 1; Mecklenburg; New Hanover, 4; Northampton, 1; Onslow; Pitt, 1; Randolph, 1; Rutherford, 3; Sampson, 1; Transylvania, 1; Union, 1; Wake, 1—19 counties.

TYPHOID FEVER.—Ashe, a few; Beaufort, 6; Cabarrus, 2; Caldwell, 1; Chatham, 2; Clay, 1; Columbus, 4; Currituck, 2; Davidson, 2; Davie, a few; Duplin, 4; Edgecombe, 1; Graham, 1; Granville, 2; Guilford, 1; Harnett, 2; Henderson, 1; Hertford, 1; Jackson, 2; Martin, a few; Mecklenburg; Montgomery, 4; New Hanover, 1; Northampton, 1; Person, 3; Randolph, 2; Swain, 1; Wake, 1; Yancey, 1 or 2—29 counties.

MALARIAL FEVER.—Martin.

MALARIAL FEVER, PERNICIOUS.—Martin.

MUMPS.—Alleghany, several; Pender; Randolph, in all parts—3 counties.

MENINGITIS, CEREBRO-SPINAL.—Alleghany, 1; Jackson, 1; Lincoln, 1; Polk, 1; Randolph, 1; Wake, 1—6 counties.

INFLUENZA.—Alamance, general; Beaufort; Bertie; Brunswick; Carteret; Caswell; Catawba; Chatham; Chowan; Clay; Cleveland, general; Columbus; Craven, general; Currituck; Davie; Duplin, general; Edgecombe; Forsyth; Gaston, general; Graham; Granville; Harnett; Hertford; Iredell; Johnston; New Hanover; Northampton; Perquimans; Richmond; Robeson; Rowan; Rutherford; Surry; Transylvania; Wake; Warren; Washington, general—37 counties.

PNEUMONIA.—Alamance, several; Alleghany, several; Ashe, many; Beaufort, several; Bertie, 1; Bladen, a few; Brunswick, 11; Burke, 15; Cabarrus, 24; Caldwell, 20; Camden, 30; Carteret, several; Catawba, 5; Chatham, 15; Chowan, many; Clay, several; Cleveland, a few; Columbus, 6; Craven, several; Cumberland; Currituck, a few; Davidson, several; Davie, a few; Duplin, 12; Durham, a few; Edge-

combe, several; Forsyth, many; Gaston, a few; Gates, 12; Granville, 10; Harnett, 20; Henderson, 4; Hertford, in all parts; Iredell, many; Jackson, 27; Johnston, several; Lincoln, 10; McDowell, several; Madison; Martin, several; Mecklenburg; Montgomery; New Hanover, a few; Northampton; Onslow; Pasquotank, several; Perquimans, many; Person, 3; Polk, 8; Randolph, 10; Richmond, 3; Robeson, a few; Rowan, 19; Rutherford, 12; Sampson, a few; Surry, 8; Swain, 5 or 6; Transylvania, a few; Union, 14; Wake, 37; Warren, several; Washington, 8; Watauga, 5; Wilkes; Yancey, a few—65 counties.

RÖTHELN.—Yancey.

VARICELLA.—Watauga.

SMALLPOX.—Alamance, 30; Alleghany, 3; Ashe, 1; Bertie, 2; Cabarrus, 20; Camden, 11; Chowan, 2; Columbus, 1; Davie, 15; Durham, 1; Edgecombe, 2; Forsyth, 16; Gaston, 1; Guilford, 63; Johnston, 4; Madison, 1; Mecklenburg, 2; New Hanover, 2; Pender, 1; Randolph, 12; Robeson, 1; Rowan, 4; Yancey, 1—23 counties.

No diseases reported from Buncombe and Wayne.

No reports received from Greene, Halifax, Hyde, Lenoir, Macon, Mitchell, Moore, Nash, Orange, Rockingham, Stanly, Wilkes and Yadkin.

## SUMMARY OF MORTUARY REPORTS FOR JANUARY, 1908.

## TWENTY-ONE TOWNS.

	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>
Aggregate population .....	146,000	76,900	204,900
Aggregate deaths .....	145	175	320
Representing temporary annual death- rate per 1,000.....	11.9	27.3	18.7

*Causes of Death.*

Typhoid fever .....	2	0	2
Malarial fever .....	0	1	1
Diphtheria .....	2	0	2
Whooping-cough .....	1	2	3
Pneumonia .....	25	45	70
Consumption .....	14	26	40
Brain diseases .....	14	9	23
Heart diseases .....	17	19	36
Neurotic diseases .....	2	2	4
Diarrhoeal diseases .....	1	7	8
All other diseases.....	61	63	124
Accident .....	4	1	5
Violence .....	2	0	2
Total .....	145	175	320
Deaths under five years .....	26	40	66
Still-born .....	6	22	28



## Mortuary Report for January, 1908.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL		Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		
Charlotte .....	W.	18,000	30,000	6.7	11.6							1	1	2		1		5				10	29	1	1
Dr. F. O. Hawley.	C.	12,000		19.0				1					6	1	2	2			7				19	5	1
Durham .....	W.	12,000	18,000	12.0	21.5							1	6	2				2				12	32	4	
Dr. T. A. Mann.	C.	6,000		40.0				1					5	7	2				4	1			20	8	4
Edenton .....	W.	3,000	6,000	24.0	38.0							1	1					4				6	19		
Dr. H. M. S. Cason.	C.	3,000		52.0									6		1	1			6				13		
Elizabeth City .....	W.	6,000	10,000	20.0	28.8							1	2	2			1	4				10	24	2	
Dr. C. B. Williams.	C.	4,000		42.0									4	2	1	1			6				14	5	2
Fayetteville .....	W.	3,500	6,000	13.7	16.0							1	1	1			1					4	8		
Dr. A. S. Rose.	C.	2,500		19.2									1	1		1			1				4		
Goldsboro .....	W.	6,000	10,000	10.0	13.2									3				2				5	11	2	
Robt. A. Creech, Esq.	C.	4,000		18.0							1				1				4				6		
Greensboro .....	W.	10,000	16,000	19.2	18.0							3		2	3			7	1			16	24	5	1
Dr. Edmund Harrison.	C.	6,000		16.0									1	2	1	2			2				8	2	3
Henderson .....	W.	3,200	6,000	11.2	10.0							2						1				3	5	1	
Dr. A. S. Pendleton.	C.	2,800		8.6										1					1				2		
High Point .....	W.	9,200	11,200	7.8	7.5							1	2					3				6	7	2	
Dr. C. E. Reitzel.	C.	2,000		6.0										1						3				1	
Marion .....	W.	1,500	1,600	40.0	3.7	1						1							1		2	5	5		
Dr. M. L. Justice.	C.	100		0.0																			0		
New Bern .....	W.	6,500	14,000	7.4	15.4							1			1			2				4	18	1	
Dr. Charles Duffy.	C.	7,500		22.4										5	4		2	1		2				14	3
Oxford .....	W.	2,000	4,000	0.0	6.0																	0	2		
Dr. S. D. Booth.	C.	2,000		12.0																				2	
Raleigh .....	W.	13,000	22,000	17.5	19.6								3	3				12	1			19	36	3	1
T. P. Sale, Clerk B. H.	C.	9,000		22.7										4	3	1	2		1	7				17	4
Reidsville .....	W.	4,000	6,000	15.0	20.0							3	1	1								5	10	1	
J. F. Smith, City Clerk.	C.	2,000		30.0										3					2					5	
Rocky Mount .....	W.	5,000	8,000	9.6	7.5							2										4			
Dr. L. C. Covington.	C.	3,000		4.0										1										1	5
Salem .....	W.	3,400	3,800	28.2	16.8				1			3	1		1			1				8	8		
F. H. Vogler, Mayor.	C.	400		0.0																				0	
Salisbury .....	W.	7,400	11,000	8.1	14.2							2	1					2				5	13	1	
Dr. H. T. Trantham.	C.	3,600		26.7										5		1				2				8	1
Southport .....	W.	1,000	1,500	0.0	8.0																	0			
Dr. J. A. Doshier.	C.	500		24.0											1									1	
Tarboro .....	W.	1,500	3,000	32.0	24.0							1			1			1				4	6	1	
Dr. W. J. Thigpen.	C.	1,500		16.0															2					2	
Wilmington .....	W.	16,000	30,000	13.5	17.6	1		1				1		2	1		12					18	44	5	1
Dr. Charles T. Harper.	C.	14,000		23.0										5	1		6	1	2	11				26	4
Wilson .....	W.	3,800	6,800	6.3	22.9							1										2	13	3	
Dr. W. S. Anderson.	C.	3,000		44.0										1	1				1	8				11	

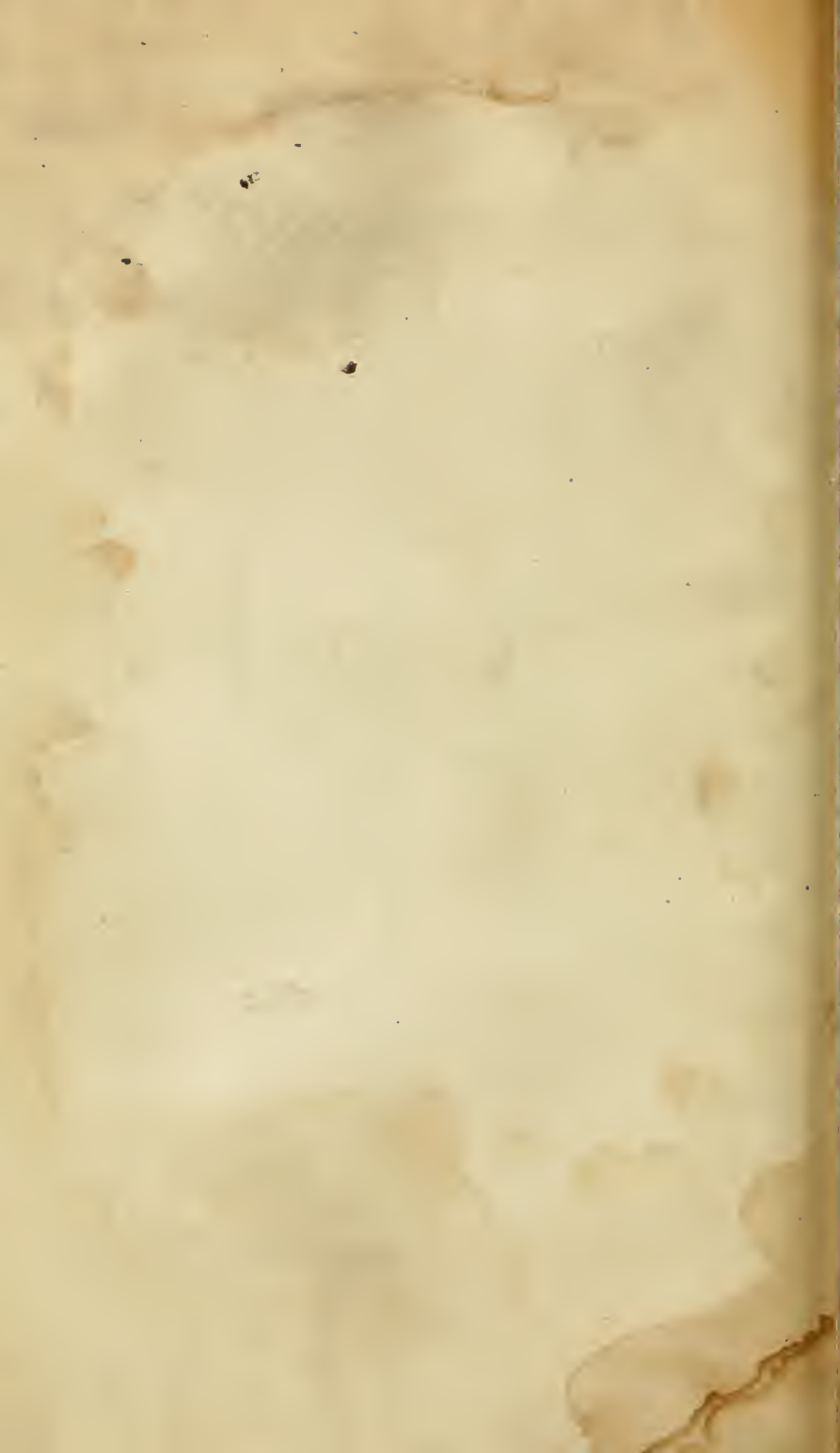
N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate "I hereby certify that this report gives the whole number of deaths occurring within the corporate limits during the above month."



### County Superintendents of Health.

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Alamance .....	Dr. H. M. Montgomery.	Jones.....	
Alexander .....	Dr. O. L. Hollar.	Lenoir .....	Dr. C. L. Pridgen.
Alleghany .....	Dr. Robert Thompson.	Lincoln .....	Dr. R. W. Petrie.
Anson .....	Dr. E. S. Ashe.	McDowell .....	Dr. M. L. Justice.
Ashe.....	Dr. B. O. Edwards.	Macon .....	Dr. S. H. Lyle.
Beaufort .....	Dr. D. T. Tayloe.	Madison .....	Dr. W. J. Weaver.
Bertie .....	Dr. H. V. Dunstan.	Martin.....	Dr. W. E. Warren.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick .....	Dr. J. Arthur Doshier.	Mitchell.....	Dr. Virgil R. Butt.
Buncombe .....	Dr. D. E. Sevier.	Montgomery .....	Dr. J. B. Shamburger.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash .....	Dr. J. P. Battle.
Caldwell .....	Dr. C. L. Wilson.	New Hanover .....	Dr. W. D. McMillan
Camden.....	Dr. C. G. Ferebee.	Northampton.....	Dr. H. W. Lewis.
Carteret .....	Dr. W. E. Headen.	Onslow.....	Dr. Cyrus Thompson.
Caswell .....	Dr. S. A. Malloy.	Orange.....	Dr. C. D. Jones.
Catawba .....	Dr. Geo. H. West.	Pamlico.....	
Chatham.....	Dr. J. H. Taylor.	Pasquotank .....	Dr. J. B. Griggs.
Cherokee.....	Dr. W. A. Graham.	Pender.....	Dr. Robt. H. Bradford.
Chowan.....	Dr. H. M. S. Cason.	Perquimans.....	Dr. T. P. McMullen.
Clay .....	Dr. P. B. Killian.	Person .....	Dr. W. A. Bradsher.
Cleveland .....	Dr. T. E. McBrayer.	Pitt.....	Dr. Joseph E. Nobles.
Columbus.....	Dr. H. B. Maxwell.	Polk .....	Dr. Earle Grady.
Craven.....	Dr. Joseph F. Rhem.	Randolph .....	Dr. S. A. Henley.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. N. C. Hunter.
Currituck .....	Dr. H. M. Shaw.	Robeson .....	Dr. H. T. Pope.
Dare .....		Rockingham .....	Dr. Sam Ellington.
Davidson .....	Dr. Joel Hill.	Rowan.....	Dr. I. H. Foust.
Davie .....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. E. B. Harris.
Duplin .....	Dr. John A. Ferrell.	Sampson .....	Dr. Frank H. Holmes.
Durham .....	Dr. N. M. Johnson.	Scotland .....	Dr. K. A. Blue.
Edgecombe .....	Dr. W. J. Thigpen.	Stanly.....	Dr. J. N. Anderson.
Forsyth.....	Dr. S. F. Pfohl.	Stokes .....	
Franklin .....	Dr. R. F. Yarborough.	Surry .....	Dr. John R. Woltz.
Gaston.....	Dr. L. N. Glenn.	Swain.....	Dr. J. A. Cooper.
Gates.....	Dr. Geo. D. Williams.	Transylvania .....	Dr. Goode Cheatham.
Graham .....	Dr. M. T. Maxwell.	Tyrrell.....	
Granville .....	Dr. S. D. Booth.	Union .....	Dr. Henry D. Stewart.
Greene.....	Dr. W. B. Murphy.	Vance.....	Dr. John Hill Tucker.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. W. McGee, Jr.
Halifax .....	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. J. W. Halford.	Washington .....	Dr. W. H. Ward.
Haywood .....	Dr. J. F. Abel.	Watauga.....	Dr. J. M. Hodges.
Henderson .....	Dr. J. G. Waldrop.	Wayne.....	Dr. T. L. Ginn.
Hertford .....	Dr. J. H. Mitchell.	Wilkes.....	Dr. John Q. Myers.
Hyde.....	Dr. R. E. Windley.	Wilson.....	Dr. W. S. Anderson
Iredell .....	Dr. M. R. Adams.	Yadkin .....	Dr. S. L. Russell.
Jackson.....	Dr. A. A. Nichols.	Yancey .....	Dr. J. B. Gibbs.
Johnston .....	Dr. L. D. Wharton.		



# BULLETIN

## OF THE

# NORTH CAROLINA BOARD OF HEALTH

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*Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.*

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### PELLAGRA IN NORTH CAROLINA.

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BY EDWARD JENNER WOOD, M. D.

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[It is with much pleasure that we print Dr. Wood's excellent and valuable paper. No contributor to the columns of the BULLETIN could be more welcome than the talented son of Dr. Thomas F. Wood, by whose efforts the State Board of Health was created, and who, by his self-sacrificing devotion of time, labor and his own private means, kept it alive until the State finally made an appropriation for its support.—Ed.]

The first record of pellagra in America appeared in the *Journal of the American Medical Association* for July 7, 1907. The article is by Dr. Searcy, and in it he points out some symptoms of acute pellagra, not generally recognized. This outbreak occurred in Tuscaloosa, Ala. The disease has been recognized also in Columbia, S. C.

At the last meeting of the American Medical Association I referred to several cases which I then considered an unusual form of symmetrical gangrene of the skin, probably of malarial origin. Since then I have been convinced that I included some cases of pellagra.

Dr. R. H. Bellamy of Wilmington first recognized pellagra in this State, having made the diagnosis before the appearance of Dr.

Searcy's paper. A report of his cases is now in the press, but with his permission I will allude briefly to some of them.

Pellagra is usually characterized by symptoms of headache, depression, sleeplessness, parasthesias, cramps, etc., before the appearance of skin lesions. The skin lesions are always symmetrical and involve those surfaces exposed to the sun's rays, which may have some part in their causation. These surfaces are the backs of the hands and the forearms, the tops of the feet, the back of the neck, and in some cases the face. The skin lesion begins as an erythema. There are often present petechiæ and bullæ, which, on rupturing, leave an ulcerated surface, hence the name (*pellis agria*, ulcer of the skin). The skin lesions heal spontaneously, leaving a slightly yellow pigmented surface behind. These lesions appear in the spring and disappear in the fall. In the chronic cases this is repeated year after year until finally the skin has a mummy-like appearance.

Gastro-intestinal symptoms are very characteristic. In three cases we have seen violent stomatitis resembling pytalism. The gastric symptoms are numerous and varied. A serous diarrhœa is present in nearly all cases.

After the disease becomes chronic, at varying intervals, mental disturbances appear, with depression of spirits, which often deepens into melancholia. The gait is uncertain but not ataxic. Ankle clonus is variable. There is usually a tremor. Contrary to some authorities we have found some cases with decided disturbances of sensation.

The diseases usually confused with pellagra are those belonging to the progressive dementias. At times it resembles general paralysis of the insane, but this can usually be discarded because of the absence of delusions of grandeur or persecution and the presence of features of palsy. When disturbances of sensation are present, together with the eruption, the disease might readily be mistaken for leprosy in a country where this latter disease prevails.

The prognosis when the disease has existed for several seasons, especially when the mind is affected, is very unfavorable. In fact, in these cases recovery is almost unknown. In the acute cases the course is usually rapidly fatal. I have seen four deaths out of seven cases, and the survivors have become chronically affected.

But here we are most concerned with the etiology. The authorities are agreed that in all cases the disease arises from eating diseased corn. In northern Italy the quality of the corn raised is very poor, and it is picked green and stored in damp places, and in this section of Italy is found the greatest number of cases. The fungus to which the disease is provisionally attributed is the *Reticularia ustilago*. The spores appear as brown powder underneath the epidermis. The authorities seem to think that apart from the fungus there is some innate property of the corn which helps in the production of the specific poison.

The Ministry of Agriculture in Italy has provided drying apparatus for the corn, bakeries, provision for the better housing of the corn, and institutions for the treatment of the victims.

Surely we have a new pestilence amongst us, and one that should engage the attention of the profession and laity alike. Yearly the railroads pay thousands of dollars for corn that is damaged by water in transit, but I am told none of this corn is discarded. Why should not the fungus grow and multiply in a wet ear as well as in a damp cellar? Dr. Searcy says he had some of the suspected corn examined, and the report from Washington was that it was unfit for any purpose. Dr. Searcy further shows that in 1905 the corn crop was largely a failure, and it was in this year that the disease appeared. Must the people of North Carolina discontinue the use of a food used by fully four-fifths of them, or can our corn be inspected so carefully and skillfully that we will be able to eat it without fear or trembling?

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#### SOME SPRING THOUGHTS.

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In the spring, after its winter's sleep, all nature wakes and begins another course of activity and growth. With the song of birds is mingled the song of the mosquito, and in common with all vegetation bacterial life awakens to renewed activity. As a consequence the agencies which produce malarial fevers and the most fatal diseases of infancy are once more to the fore, and it behooves us to take account of them in time, and, so far as possible, counteract and nullify them.

Malarial fevers are among our most common diseases. They are preventable, theoretically entirely, practically largely. Prevention consists simply in destroying the only known means of transmission—the mosquito. No anopheles mosquitoes no malaria, is now regarded as an established fact. Comparatively only a few mosquitoes come through the winter alive, and the time to wage war upon them is while their army is small and weak. The method of warfare to be pursued—and the only successful method—is to remove the conditions upon which they are absolutely dependent for multiplication, to-wit, all stagnant water within a reasonable distance of the dwelling house. While the drainage of swamps and large ponds may not be feasible, it should be borne in mind that comparatively few of our people live in close proximity to these, and that mosquitoes do not fly far from their breeding places. The trouble lies chiefly in the rain barrel, tin cans, etc., lying about the premises, and in the little pools to be found in ditches near the house. The former can easily be done away with entirely, and the latter, if undrainable, should be covered with a little oil not less frequently than every fort-



night. By looking after these matters as soon as warm weather begins, and continuing it during the summer, much sickness, and more annoyance, would be avoided.

Cholera infantum and the summer diarrhœas of infants are caused by the toxins produced by the growth of bacteria in milk, one of the best of culture media. So the problem in this case is to prevent as far as possible the ingress of bacteria, in the first place, by cleanliness of the cow, utensils and milker; and their growth by cold, applied at the earliest possible moment after milking.

The milk problem in our warm climate is a much more difficult one than it is further North, but with reasonable care and attention much can be accomplished. The cow should be healthy and should be fed only on good food. She should be cleaned, at least her flanks and udder, by brushing and washing, and the hands of the milker should be washed; the milk should be thoroughly strained and, at least that intended for the baby, should be immediately cooled by putting it in the refrigerator, or, where there is no ice, by hanging a small can, or better, bottle, which has been previously sterilized with boiling water, in the well, and keeping it there. While the temperature of our wells is not low enough to prevent bacterial growth, it will greatly retard it and reduce the amount of toxins to the lowest practical minimum. With ice in the house, the results would be much better and more conveniently attained. These suggestions apply to the country or village family owning its own cow.

The question of the milk supply of cities and large towns, where the milk has to be transported some distance from dairies in the country, is much more difficult, especially in our warm climate. By requiring all dairymen selling milk to the public to take out a license, under which certain rules and regulations as to healthfulness of the cows, condition of the stables, methods of handling the milk from start to finish, and a certain standard of purity must be complied with, much can be done to improve the character of the milk. To insure observance of the rules frequent examinations of the dairies must be made by competent inspectors and bacteriological tests of the milk must also often be made. But this is only a part of the problem. The most difficult thing is to thoroughly cool the milk and keep it cool until delivered. To do this ice is required, and, at the current price of milk, this cannot be afforded. All milk is loaded with bacteria, and to prevent their growth and further multiplication the milk must be kept at a low temperature—50 degrees being required where milk supervision is most advanced. But with us, where the milk is hauled from one to three or four miles before delivery is begun, in a summer heat, there must, of necessity, be a great increase in the number of bacteria. So it is safe to assume that practically all the milk we get in summer is not suitable for the baby. This being so, the only thing remaining to be done is to kill the bacteria by what is



known as Pasteurization, and then keeping the milk in the refrigerator in small bottles containing just enough for one meal. The family physician can give detailed instructions for carrying this out. But even this will not avail unless the nursing bottle and nipple are kept thoroughly clean and sterile.

In the handling of milk the two essentials are *cleanliness* and *coolness*.

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## REVIEW OF DISEASES FOR FEBRUARY, 1908.

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### SEVENTY-SIX COUNTIES REPORTING.

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Ninety-two counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases, the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of February the following diseases have been reported from the counties named:

MEASLES.—Ashe, a few cases; Brunswick, 3; Camden, epidemic; Caswell, several; Chatham, 1; Chowan, epidemic; Cleveland, a great many; Columbus, 15; Davidson, a few; Davie, a few; Duplin, 100; Edgecombe, a few; Forsyth, a few; Gaston, many; Harnett, 25; Henderson, 30; Jackson, 55; Johnston, several; Lincoln, 50; McDowell, several; Mecklenburg; New Hanover, many; Onslow, several; Pender, many; Perquimans, 2; Randolph, many; Richmond, 1; Transylvania, 1; Union, a few; Wake, 1; Watauga, 30; Wayne, several; Yadkin, a few—33 counties.

WHOOPIING-COUGH.—Alamance, several; Alleghany, several; Ashe, several; Bladen, many; Brunswick, several; Caldwell, 30; Camden, epidemic; Chowan, a few; Cleveland, a great many; Cumberland; Duplin, 25; Durham, a few; Edgecombe, a few; Forsyth, a few; Gaston, many; Lincoln, 25; Madison; Mecklenburg; New Hanover, a few; Polk, 1; Randolph; Richmond, many; Robeson, a few; Rowan, a few; Sampson, a few; Scotland; Union, a few; Wake, 5—28 counties.

SCARLATINA.—Davidson, 2; Davie, 2; Durham, 8; Guilford, 3; Harnett, 2; Iredell, 4; Johnston, 1; Montgomery, 3; Randolph; Richmond, 1; Union, 4—11 counties.

DIPHTHERIA.—Alamance, 2; Ashe, a few; Craven, 1; Durham, 1; Gaston, 1; Gates, 6; Greene, 1; Guilford, 1; Mecklenburg; New Hanover, 1; Person, 1; Polk, 1; Randolph, a few—18 counties.

TYPHOID FEVER.—Ashe, a few; Bertie, 1; Caldwell, 1; Chatham, 5; Columbus, 3; Cumberland, a few; Davie, a few; Duplin, 2; Edgecombe, 1; Gaston, 1; Graham, 1; Montgomery, 2; Pender, 2; Person, 6; Randolph, 5; Swain, 4; Yancey, a few—17 counties.

MALARIAL FEVER, PERNICIOUS.—Watauga, 1.

INFLUENZA.—Alamance, Bertie, general; Brunswick: Carteret, Caswell, Catawba, general; Chatham; Clay, in nearly all parts; Cleveland, general; Currituck, many; Davie, Edgecombe, Gaston, Gates, Graham, Granville, general; Guilford: Harnett, Henderson, Hertford, Iredell, Madison, general; Montgomery; New Hanover, Onslow, Perquimans, Richmond, Robeson, Surry, Wake, Warren, Washington, Wayne, Yadkin, Yancey, general—35 counties.

PNEUMONIA.—Alamance, several; Alleghany, many; Ashe, many; Beaufort; Bertie, 4; Bladen, 2; Brunswick, 24; Burke, 10; Cabarrus, 12; Caldwell, 3; Camden, 25; Carteret, a few; Caswell, 50; Catawba, 4; Chatham, 17; Chowan, many; Clay, 4; Cleveland, many; Columbus, 6; Cumberland; Currituck, a few; Davidson, several; Davie, a few; Duplin, 10; Durham, many; Edgecombe, several; Forsyth, many; Franklin, many; Gaston, several; Gates, 12; Graham, 5; Granville, 1; Greene, 6; Harnett, 13; Henderson, 5; Hertford, 25; Iredell, many; Jackson, 15; Johnston, several; McDowell, several; Madison, in all parts; Mecklenburg; Montgomery, 6; New Hanover, several; Onslow; Orange, in all parts; Pasquotank, many; Pender, 1; Perquimans, many; Person, 3; Polk, 8; Randolph, a great many; Richmond, 3; Robeson, several; Rowan, a few; Sampson, several; Scotland, 24; Swain, 5; Union, many; Wake, 37; Warren, several; Washington, 10; Watauga, 2; Wilkes, a few; Yadkin, 4; Yancey, in all parts—66 counties.

MENINGITIS, CEREBRO-SPINAL.—Caldwell, 1; Chowan, 1.

MUMPS.—Randolph; Pender, in all parts.

RUBELLA.—Craven, several; Currituck, several; Franklin, many; Onslow; Washington, in all parts—5 counties.

SMALLPOX.—Alamance, 12; Alleghany, 6; Bertie, 4; Cabarrus, 9; Camden, 5; Chatham, 15; Chowan, 7; Currituck, 3; Davie, 4; Forsyth, 4; Gates, 1; Iredell, 8; Jackson, 40; Johnston, 20; Madison, 10; Mecklenburg, 4; New Hanover, 2; Orange, 5; Pasquotank, 1; Pender, 1; Randolph, 21; Wake, 3; Wayne, 1; Wilkes, 150, in the southwestern part; Yadkin, 15—25 counties.

No diseases have been reported from Buncombe, Pitt, Vance and Wilson.

No reports received from Alexander, Anson, Cherokee, Halifax, Haywood, Hyde, Lenoir, Macon, Martin, Mitchell, Moore, Nash, Northampton, Pamlico, Rockingham, Rutherford and Stanly.

## SUMMARY OF MORTUARY REPORTS FOR FEBRUARY, 1908.

## TWENTY-FOUR TOWNS.

	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>
Aggregate population .....	149,750	95,350	245,100
Aggregate deaths .....	183	206	389
Representing temporary annual death-rate per 1,000 .....	14.7	25.9	19.0

*Causes of Death.*

Typhoid fever .....	2	0	2
Whooping-cough .....	1	1	2
Pneumonia .....	42	66	108
Consumption .....	27	35	62
Brain diseases .....	13	7	20
Heart diseases .....	13	12	25
Neurotic diseases .....	4	6	10
Diarrhœal diseases .....	4	3	7
All other diseases.....	74	70	144
Accident .....	2	5	7
Violence .....	1	1	2
Total .....	183	206	389
Deaths under five years.....	42	68	110
Still-born .....	8	10	18

## Mortuary Report for February, 1908.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH- RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL DEATHS. By Towns.	Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																			
Asheville .....	W.	10,000		27.6								7	8	1	1							23	7	
A. G. Halyburton, C.C.	C.	5,000	15,000	31.2	28.8							1	4	2								13	36	5
Charlotte .....	W.	18,000		14.0								4	4	2	1							21	48	6
Dr. F. O. Hawley.	C.	12,000	30,000	27.0	19.2							12	3	1	1							27	11	
Durham .....	W.	12,000		25.0		1						5	5	2	2							25	44	5
Dr. T. A. Mann.	C.	6,000	18,000	33.0	29.3					1		7	5	2								19	6	
Edenton .....	W.	3,000		16.0								1		2	1							4	9	
Dr. H. M. S. Cason.	C.	3,000	6,000	20.0	18.0							3		2								5		
Elizabeth City .....	W.	6,000		10.0								3	1									5	14	
Dr. C. B. Williams.	C.	4,000	10,000	27.0	16.8							3		1								9	5	1
Fayetteville .....	W.	3,500		13.7								1	1	1								1	4	
Dr. A. S. Rose.	C.	2,500	6,000	19.2	16.0							2										4	8	
Goldsboro .....	W.	6,000		4.0								1	1									2	6	
Robt. A. Creech, Esq.	C.	4,000	10,000	12.0	7.2							1	1		1							4	2	
Greensboro .....	W.	10,000		15.6								3		3	1							13	30	5
Dr. Edmund Harrison.	C.	6,000	16,000	34.0	22.5							5	5	1								17	11	3
Henderson .....	W.	3,200		3.7								1										3	4	
Dr. A. S. Pendleton.	C.	2,800	6,000	12.8	8.0							1										4	1	
High Point .....	W.	9,200		9.1								1	1									7	11	4
Dr. C. E. Reitzel.	C.	2,000	11,200	24.0	11.7																	4	2	
Lexington .....	W.	3,000		0.0																		0	1	
J. H. Moyer, Mayor.	C.	600	3,600	20.0	3.3							1												
Marion .....	W.	1,500		0.0																		0	0	
Dr. M. L. Justice.	C.	100	1,600	0.0	0.0																			
New Bern .....	W.	6,500		3.7																		2	22	1
Dr. Charles Duffy.	C.	7,500	14,000	32.0	18.8							8	2	2	2							5	1	2
Oxford .....	W.	2,000		0.0																		0	1	
Dr. S. D. Booth.	C.	2,000	4,000	6.0	3.0							1			2							1		
Raleigh .....	W.	13,000		24.0								5	3	1	1							26	44	2
T. P. Sale, Clerk B. H.	C.	9,000	22,000	24.0	24.0							4	4		2							17	5	1
Reidsville .....	W.	4,000		30.0								4	1									10	13	
J. F. Smith, City Clerk.	C.	2,000	6,000	18.0	26.0					1		1			1							3		
Rocky Mount .....	W.	5,000		7.2																		2	1	
Dr. L. C. Covington.	C.	3,000	8,000	12.0	9.0							1										3	6	1
Salent .....	W.	3,400		3.2								1										1	1	
F. H. Vogler, Mayor.	C.	400	3,800	0.0	3.1																	0		
Salisbury .....	W.	7,400		9.7								5	1									6	14	
Dr. H. T. Trantham.	C.	3,600	11,000	26.7	15.3							3	2		1							8	1	1
Southport .....	W.	1,000		0.0																		0		
Dr. J. A. Doshier.	C.	600	1,600	80.0	30.0							3	1									4	4	1
Tarboro .....	W.	1,500		8.0																		1	2	1
Dr. W. J. Thigpen.	C.	1,500	3,000	8.0	8.0							1										1	1	1
Weldon .....	W.	750		16.0								1										1	3	
J. T. Gooch, Mayor.	C.	750	1,500	32.0	24.0							2												
Wilmington .....	W.	16,000		18.0		1						4	1		3	2						24	58	7
Dr. Charles T. Harper.	C.	14,000	30,000	29.1	23.2							6	6		1	5						13	4	10
Wilson .....	W.	3,800		12.6											1							4	10	3
Dr. W. S. Anderson.	C.	3,000	6,800	24.0	17.6							2	1									6		

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the whole number of deaths occurring within the corporate limits during the above month."









